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Monthly Bulletin

"MAKE PENNSYLVANIA FIREPROOF"

Department

OF THE

State Fire Marshal

OF

Pennsylvania

OFFICE----Room 166

Capitol Building, Harrisburg, Pa.

G. CHAL. PORT, State Fire Marshal

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MONTHLY BULLETIN

Department

OF THE

State Fire Marshal

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Pennsylvania

G. CHAL. PORT, State Fire Marshal

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A Bulletin of Information for the Public

JUNE and JULY, 1917

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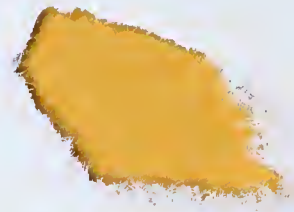


CONSERVING VITAL RESOURCES

The greatest fire prevention campaign the world has ever seen—The War time necessity of Conserving Grain, Cotton, Coal and other staples—Authorities and Organizations co-operating—The Public Must Lend a Hand.

Since the first publication of the statement that the National Board of fire Underwriters had undertaken an extensive work of war-time conservation in the service of the federal government, there have been many inquiries from those desiring particulars. While some of the work is of a somewhat confidential nature, it is believed that a brief outline of certain phases may now with propriety be given.

Every day furnishes increased evidence that the world is racing with starvation. It is a crime against humanity to allow the usual percentage of fires in grain elevators and other places of storage to be continued. The National Board, therefore, has been working out extensive plans for providing fire protection, as distinguished from mere fire indemnity, for all elevators, flour mills, potato and onion warehouses, and other food repositories in the United States.

To this end President Bissell has appointed local sub-committees in New York, Chicago, Philadelphia, Boston, San Francisco, Minneapolis, St. Paul, Atlanta, New Orleans and Dallas. These committees have already entered into active cooperation with the governors, state councils of defense, committees of safety, fire marshals, and the financial and commercial interests of their localities, particularly with committees of grain dealers associations, representative owners, etc.

Their activities are of a far reaching nature, involving inspections, the correction of structural hazards, and the promotion of careful methods, including cleanliness.

The vast annual loss of food staples through fire has long been recognized as very largely preventable, but there never before has been such an opportunity for bringing about a widespread campaign of conservation. The successful fruits of this campaign should preserve the living for unnumbered thousands whose food requirements would be destroyed were the fire loss to remain as usual.

But little less important is the conservation of the cotton crop—that great staple whose employment in the manufacture of explosives, as well as in fabrics, makes it an indispensable war-time necessity. The United States is the source of a large part of the worlds supply, and it is vitally important that this supply should not be diminished through fire. The burden of this responsibility falls upon the committees in Dallas, New Orleans, and Atlanta, although shared to some degree by those in other cities. In this work, as well, the closest cooperation is maintained with all local authorities and interested organizations.

The protection of coal properties, including breakers, tipples, etc.; of fertilizer works; of saw mills and of piers and wharves, are important divisions of the work undertaken. With the growing probability that every ounce of the nation's strength may be required, it would be intolerable to continue the drain of preventable fires in these vital resources. Each one of them, therefore, is being made the subject of closest study and most active effort in a great fire prevention campaign, the like of which the world has never known.

This campaign is enlisting the services of approximately four thousand trained fire prevention engineers, inspectors, surveyors, and appraisers located in every part of the country, as well as of numerous supplementary insurance organizations, and an army of officials, leagues, committees and associations, all coordinated into a single movement, working earnestly for the nation's safety.

It is of the utmost importance that every individual in the nation should consider himself as a committee of one to cooperate in the removal of all unnecessary fire hazard that may come within his knowledge. The urgency of this need is paramount.

RURAL FIRE PROTECTION NO LONGER IMPRACTICABLE

The advancement in fire protection for cities and large towns in the past few years has been great, but for the smaller towns and rural districts very little has been done until quite recently.

A very large percentage of our people do not live within the limits of fire protection of the towns or cities and a fire often means com-

plete destruction of the residence as well as the outbuildings and stored crops.

Horse-drawn apparatus from the cities plainly cannot cover any large amount of this territory owing to the distances involved and the limit of equine endurance. In these days of universal telephones the alarm can be given and auto apparatus make quick response over considerable territory. The combination chemical and hose wagon of the city department is, however, of little use beyond the reach of water mains, and the big water pumping engine with its ability to throw enormous volumes of water is too heavy for country roads and of too great a capacity for the water supply in the rural districts. In addition to these facts, the city officials often object seriously to their apparatus leaving because the city is unprotected in its absence and on account of the danger of disabling the apparatus on the soft, slippery roads. It therefore devolves upon the rural districts to provide their own protection.

The small country town in these rural districts gets most of its living from the farmer, and this small town by itself finds it a hard problem to get an efficient fire equipment. The hand engine and the small two-wheeled chemical have been more or less successfully supplemented in some cases by the elevated tank water system. This fire equipment, however, covers only a comparatively small area.

A light auto fire equipment, combining a chemical and pumping engine and hose wagon, has recently been brought out which admirably fills the requirements for the small town and is amply able to protect a considerable section of the surrounding country as well. If the small town and the rural district can unite in the purchase of this equipment the benefit will be mutual and the cost very reasonable to all concerned. The rural population can thus be reasonably sure that a telephone call will find the town fire department equipped and ready to serve them promptly.

Engines now on the market seem especially adapted for this service. The cost is inconsiderable, especially when the extent of the protected territory is considered. Its foundation is a well known make of automobile, admittedly the most generally understood and used car in the country; the one for which supplies and repairs can be most readily and economically obtained. Carried on this machine is an efficient chemical equipment and a pumping outfit of sufficient capacity to handle any fires which might occur in the rural districts.

One machine, centrally located, would protect several villages and the surrounding country, while lightness would permit it to take water from sources unavailable to the heavy city apparatus. The very essence of successful fire fighting by a fire department is rapidity in getting to the fire with effective fire figting machinery. All fires are the same size at the start, and the first five or ten minutes is the critical time which decides the amount of loss. This motor apparatus, which can be operated by anyone capable of driving an automobile, enables the fire department to get there quickly and to do effective fire fighting when they arrive. Simplicity and rapidity of one of these machines eliminates much of the ordinary confusion attendant at all fires. Its quick arrival with the chemical would often prevent a small fire from becoming a large one. It would fight forest and brush fires effectually, as well as the large fires in village and town.

This question of rural fire protection is being discussed over all the country. In Massachusetts and other New England states the old time town meetings, in which the voters of the town meet periodically and vote appropriations for various township needs, furnish a method of meeting this requirement. Many townships have availed themselves of it and many more are planning to do so.

New York state has a fire district law under which, on a petition signed by a number of the voters the authorities can set off any stated section of the country named in the petition as a fire district and the voters in this district can elect fire commissioners, issue bonds and purchase fire equipment to be located in the center of the district for the protection of the whole district. In this State the rural population can subscribe to the purchase of fire apparatus to be located in a village and protect all subscribers. Other states are passing laws permitting the township authorities, on proper petition, to join with the villages and towns in purchasing apparatus for their mutual protection. The time is, no doubt, at hand when the rural districts can be well protected against fire.

Extracts from Fire Protection.

LOSSES BY FIRE IN FEBRUARY, 1917, REPORTED TO THE STATE FIRE MARSHAL.

County.		*County.*	
Adams,	2	Lackawanna,	100
Allegheny,	146	Lancaster,	39
Armstrong,	25	Lawrence,	15
Beaver,	18	Lebanon,	5
Bedford,	9	Lehigh,	18
Berks,	52	Luzerne,	74
Blair,	53	Lycoming,	30
Bradford,	8	McKean,	32
Bucks,	12	Mercer,	37
Butler,	11	Mifflin,	11
Cambria,	38	Monroe,	1
Cameron,	1	Montgomery,	43
Carbon,	12	Montour,	6
Centre,	10	Northampton,	14
Chester,	21	Northumberland,	12
Clarion,	7	Perry,	3
Clearfield,	21	Potter,	7
Clinton,	3	Schuylkill,	79
Columbia,	19	Snyder,	2
Crawford,	20	Somerset,	9
Cumberland,	15	Sullivan,	4
Dauphin,	41	Susquehanna,	14
Delaware,	23	Tioga,	18
Elk,	3	Union,	2
Erie,	56	Venango,	26
Fayette,	28	Warren,	17
Forest,	1	Washington,	46
Franklin,	13	Wayne,	4
Fulton,	1	Westmoreland,	47
Greene,	1	Wyoming,	5
Huntingdon,	7	York,	24
Indiana,	11		
Jefferson,	4		
Juniata,	1		1437

BUILDINGS AND AUTOMOBILES DESTROYED OR DAMAGED BY FIRE IN FEBRUARY, 1917.

Counties.	Fires reported.	Dwellings.	Barns.	Stores.	Stores and dwellings.	Manufactories.	Garages.	Other buildings.	Automobiles.
Adams,	2	2	.....	.....	.....	.....	.....	.....	.....
Allegheny,	146	113	1	18	2	1	.....	11	.....
Armstrong,	25	13	.....	4	3	.....	.....	5	.....
Beaver,	18	12	.....	5	.....	.....	.....	1	.....
Bedford,	9	3	.....	1	1	.....	1	3	.....
Berks,	52	33	.....	5	.....	2	.....	12	.....
Blair,	53	43	1	5	3	.....	.....	.....	1
Bradford,	8	6	.....	.....	.....	.....	.....	2	.....
Bucks,	12	5	2	1	.....	.....	.....	4	.....
Butler,	11	7	.....	.....	.....	.....	.....	4	.....
Cambria,	38	27	1	3	1	.....	1	5	.....
Cameron,	1	1	.....	.....	.....	.....	.....	.....	.....
Carbon,	12	5	1	1	1	.....	.....	4	.....
Centre,	10	9	.....	.....	.....	.....	.....	1	.....
Chester,	21	10	4	.....	1	1	.....	5	.....
Clarion,	7	6	.....	.....	.....	.....	.....	1	.....
Clearfield,	21	14	.....	2	.....	.....	1	4	.....
Clinton,	3	1	.....	.....	1	.....	.....	1	.....
Columbia,	19	11	.....	3	1	1	1	2	.....
Crawford,	20	15	.....	2	.....	.....	.....	3	.....
Cumberland,	15	13	1	.....	.....	1	.....	.....	.....
Dauphin,	41	24	1	4	.....	3	1	7	1
Delaware,	23	20	.....	1	1	.....	.....	1	.....
Elk,	3	2	.....	.....	.....	.....	.....	1	.....
Erie,	56	39	.....	5	1	1	1	9	.....
Fayette,	28	17	.....	6	3	.....	.....	2	.....
Forest,	1	.....	.....	.....	.....	.....	.....	1	.....
Franklin,	13	9	.....	.....	.....	.....	.....	4	.....
Fulton,	1	1	.....	.....	.....	.....	.....	.....	.....
Greene,	1	1	.....	.....	.....	.....	.....	.....	.....
Huntingdon,	7	1	2	.....	.....	1	.....	2	1
Indiana,	11	8	.....	.....	.....	.....	.....	3	.....
Jefferson,	4	4	.....	.....	.....	.....	.....	.....	.....
Juniata,	1	.....	.....	.....	.....	.....	.....	1	.....
Lackawanna,	100	69	3	18	4	.....	.....	6	.....
Lancaster,	39	26	4	.....	.....	1	.....	8	.....
Lawrence,	15	9	.....	4	.....	.....	.....	2	.....
Lebanon,	5	3	.....	2	.....	.....	.....	.....	.....
Lehigh,	18	10	3	2	.....	.....	.....	2	1
Luzerne,	74	55	1	10	1	.....	1	6	.....
Lycoming,	30	20	.....	.....	.....	2	.....	7	1
McKean,	32	17	.....	9	1	1	.....	4	.....
Mercer,	37	31	1	.....	.....	.....	.....	5	.....
Mifflin,	11	7	.....	1	.....	1	.....	2	.....
Monroe,	1	1	.....	.....	.....	.....	.....	.....	.....
Montgomery,	43	27	3	3	3	2	1	4	.....
Montour,	6	4	.....	.....	1	.....	.....	1	.....
Northampton,	14	11	.....	.....	.....	.....	.....	3	.....
Northumberland,	12	5	.....	2	2	1	.....	2	.....
Perry,	3	2	.....	.....	.....	.....	.....	1	.....
Potter,	7	2	.....	2	.....	2	.....	1	.....
Schuylkill,	79	34	2	18	14	.....	.....	11	.....
Snyder,	2	1	.....	.....	.....	.....	.....	1	.....
Somerset,	9	2	1	2	2	.....	.....	2	.....

BUILDINGS AND AUTOMOBILES DESTROYED OR DAMAGED BY FIRE IN FEBRUARY, 1917.—Continued.

Counties.	Fires reported.	Dwellings.	Barns.	Stores.	Stores and dwellings.	Manufactories.	Garages.	Other buildings.	Automobiles.
Sullivan,	4	3	.....	.....	.....	.....	.....	1	.....
Susquehanna,	14	8	.....	4	1	.....	.....	1	.....
Tioga,	18	11	.....	5	.....	.....	.....	2	.....
Union,	2	.....	.....	.....	1	.....	.....	1	.....
Venango,	26	18	1	1	2	1	1	2	.....
Warren,	17	14	.....	.....	.....	.....	.....	3	.....
Washington,	46	34	.....	4	.....	2	.....	6	.....
Wayne,	4	3	.....	.....	.....	.....	.....	.....	1
Westmoreland,	47	36	1	4	1	.....	.....	5	.....
Wyoming,	5	2	.....	.....	.....	.....	.....	3	.....
York,	24	18	2	1	.....	1	.....	2	.....
Total,	1,437	958	36	158	52	25	9	193	6

CAUSES OF FIRE IN FEBRUARY, 1917.

Adjoining,	223	Lantern,	1
Backfire,	7	Lightning,	6
Candle,	4	Matches,	80
Cigar and cigarette,	2	Moving picture machine,	1
Clothing and stove,	5	Oil stove,	19
Defective chimney,	206	Open fire,	28
Electric wiring,	24	Open light,	25
Electric heater,	1	Overheated furnace,	9
Explosion,	24	Overheated stove,	27
Forge,	4	Rubbish,	8
Friction,	3	Smoking,	26
Furnace,	2	Sparks—stack,	2
Gas explosion,	4	Sparks—chimney,	69
Gas heater,	2	Sparks—locomotive,	4
Gas jet,	17	Stove and stove pipe,	143
Gas leak,	21	Steam pipe,	4
Gas stove,	13	Spontaneous combustion,	7
Gasoline explosion,	7	Suspicious,	3
Hot ashes,	18	Thawing pipes,	123
Hot grease,	7	Torch,	2
Hot metal,	4	Undetermined,	221
Incendiary,	14		
Lamps,	17		1437

MATERIAL OF CONSTRUCTION OF BUILDINGS BURNED IN FEBRUARY, 1917.

Wood,	1105	Concrete,	2
Wood and brick,	7	Stone,	7
Wood and stone,	8	Other material,	13
Brick,	286		
Brick and stone,	6		1437

UNNECESSARY TAXATION BY NEGLECTING FIRE PREVENTION

The fire tax in the United States for the first four months of 1917 shows an increase over 1916 of $12,832,335, which indicates an increase in the per capita loss, which in 1916 was 2.26 as against 71 cents in Europe. Notwithstanding all that has been written on the subject of Fire Prevention and the work done by various bodies and individuals in the interest of the taxpayer in endeavoring to point a way to the reduction of the fire waste and a consequent saving in taxation by reduction in insurance rates, the loss continues to creep upward, bringing with it an increased tax which adds materially to the cost of living. It must be apparent to everyone that the cost of fire insurance or indemnity against fire loss is a tax upon the wealth, energy and resources of all the people, resting as it does in its final distribution upon every consumer of any article of trade or commerce. Insurance Companies must collect a tax sufficient to pay all losses sustained; pay cost of collection and distribution and have left a reasonable profit upon capital invested, as a guarantee or responsibility, and the ratio or percentage of tax assessed and collected for a given period of time, sufficient in length to permit the application of the law of average, is measured by the value of that destroyed for a like period of time, and whatever increases the quantity of value destroyed also increases the amount of tax assessment. That fire waste is a tax upon the wealth and resources of the people cannot be denied by any thinking person. Property destroyed by fire represents money, time, labor, and is irretrievably lost. No amount of insurance upon a building which burns can restore material, call back the time or recreate the energy that went into the building. The most insurance can do is to reimburse for the financial loss, and this reimbursement is made directly from a fund taken from the pockets of the people, so that it must be understood that when any piece of property is destroyed by fire, even though its owner may be made whole financially the people have lost its value, computed in terms of material, time and labor. Doubtless if the question was asked an individual as to amount contributed to the insurance indemnity fund, the answer would be the amount of annual insurance premiums paid upon property, owned and covered by insurance against loss or damage. While it is true that this amount represents

actual payment, is it not also trust that a portion of this is collected indirectly from others in the process of carrying on whatever business they may be engaged in? In many instances these indirect contributors may have borne the larger share of the tax directly contributed by the individual. For example, if in the grocery business an insurance cost $1,000 per annum, this cost is distributed over the aggregate sales for the year and proportionately added to each article which passes over the counter and thereby collected from the consumer who buys a sack of flour, a peck of potatoes, a pound of coffee or sugar, or any other article of food or dress, the United States contributing to the insurance fund which is paid by the business man directly to the agencies. In the final analysis the largest consumer of articles of trade or commerce is in reality the largest contributor to the fire waste tax. This tax is collected in an indirect way and is in a sense very similar to a protection tariff. It is the application of indirection which makes the average person so indifferent about fire waste, and its actual cost. The fire loss in Pennsylvania in 1916 approximated $220,000,000, or a per capita tax of about $2.75 for every man, woman and child in the State.

It is a well known fact that when it is proposed to increase taxes for support of municipal or State Governments, or for various other purposes, which are supported by taxation, the public become disgruntled and resists bitterly the proposed increase, though seldom, if ever, do you hear discussed the fire tax. Imagine what would happen if after having paid the taxes on your property, and finding fault with the amount required to cover the tax that the collector should notify you that there was still due $25 or $50 to pay your proportion of the fire loss tax. You would refuse to pay and probably order him off the premises; but while you do not pay this to the tax collector, nevertheless you are paying it, some more and some less than the average; but all paying something, even the one who owns no property but pays rent.

Insurance companies or Associations are simply agencies for the collection and distribution of the fire tax, and they must collect sufficient taxes to take care of losses, pay the cost of collection and distribution and have a fair margin, out of which to accumulate a reserve fund and a reasonable profit upon hazarded capital. One of the most difficult things for the general public to understand is the fact that insurance companies do not pay fire losses. They are

PLATE 1. Tannery, Tyrone, Pa. Torn Down by Order of the State Fire Marshal.

PLATE 2. Tannery, Tyrone, Pa. Torn Down by Order of the State Fire Marshal.

PLATE 3. Tannery, Tyrone, Pa. Torn Down by Order of the State Fire Marshal.

PLATE 4. Tannery, Tyrone, Pa. Showing Progress of Demolition.

simply agencies, employed by the public to collect premiums and distribute methodically and with legal responsibility the amount due to those whose misfortune it has been to lose property by fire.

It must be appreciated by the general public that the funds gathered by Insurance Companies, out of which losses are paid, comes from the pockets of consumers of the country, and as we are all consumers to a greater or less degree, we are all affected, and everytime a fire occurs it means more tax with which to reimburse for the fire waste. As it is a well established fact that when fire waste is high the tax is of necessity high and when the fire waste is low, the tax is low. Learn this as it is the first lesson in Fire Prevention and the result of efforts put forth in that direction will result in a surprising saving; as sixty per cent of all the fires that occur are caused by neglect or carelessness and are preventable. United endeavors put forth to correct this neglect on carelessness means a reduction in the fire waste, and a reduction in insurance tax will follow, allowing the amount now wasted to be used for possible improvement of property or pleasure for yourself and family.

There never has been a time, in the history of the country, when personal responsibility was heavier than at present. The alarm has sounded in regard to food shortage and the high cost of living. The merchant, through whose, hands passes the larger part of the food supply of the country, is not to blame. He is simply a distributing agent between the producer and the consumer, like the insurance companies who collect premiums and pay losses. If conditions grow worse, if shortage and high cost reaches an intolerable point, what is the remedy?

We answer, "Economy!" And here is where your responsibility looms up with a decision "No!". Do not *waste;* figure cost and live accordingly. By so doing you will soon be able to detect where former leaks in domestic economy occurred. The new order of things will *prevent* them, and in that word we found our text for this article. You can prevent food wastage in the home and community by preventing fires that may come to destroy that which has been accumulated by saving and thrift. Organize a fire prevention committee to co-operate with the Fire Marshal and see that systematic and frequent inspection is made of all property to the end that fire danger may not accumulate. If by your efforts one half the preventable fire waste in Pennsylvania is eliminated it will be a wonderful

accomplishment and will result in a large and profitable reduction of the fire waste tax and mean the saving of millions of dollars now being lost in our ash heap.

CONSERVING FOOD SUPPLY.

Lightning Chief Danger to Barns Stored With Grain—Protection Against Lightning a Patriotic Duty,

Protection of food products against loss by lightning is now a patriotic duty owing to the present necessities of conserving the food supply of the nation. A generous food supply is a vital necessity. This year the farmers of the country must raise, harvest and conserve sufficient produce to supply a world wide demand. In return for their products they are guaranteed a very generous return.

The present is not time for halfway measures. We must go to the root of things and co-operate in every way possible to prevent waste of all kinds and fire waste is an absolute waste.

Lightning causes a very large percentage of the fire loss to farmers' barns in which food products are stored. This immense loss, which totals millions of dollars annually, can be entirely eliminated if the farmers of this country will protect their barns with lightning rods. As it is now a patriotic duty to every farmer to conserve the food products which he has raised, it becomes his duty to protect his property against lightning, and it becomes the duty of fire prevention officials to urge especially the protection of farm property. The people of this and other countries are going to need every pound of food products that each and every farmer can produce. If after planting, cultivating and harvesting, food is destroyed, the farmers' efforts have been wasted. The destruction by lightning of each barn filled with grain or other food products will work a hardship on a large number of people.

No far-sighted patriotic farmer can advance the argument that he is protected because he is fully insured. Of course, in most cases he is not fully insured. Even if he is, he can easily understand that insurance money will not feed hungry people. It is the actual waste of food products which must be prevented. If a barn and its contents are destroyed by lightning, food products are wasted, our food supplies diminish, and everybody suffers, the owner of the destroyed property included.

In addition to the installation of Lightning Rods as a part of the plan to conserve the food supply of the nation, the farmer may well consider the installation of this protective equipment as in investment which should take precedence over almost any other. The value of buildings has rapidly increased. No farmer or property owner in this country can replace today any building for an amount near its original cost. The chances are that it will never again be possible to do so. The increased value of farm produce, machinery, grain, animals, etc., housed in his buildings, makes it all the more necessary that the property owner provide protection against loss by lightning.

Loss by lightning is the greatest danger which threatens the farmer's barn and his products immediately after the harvest. No work which can be done by fire prevention advocates will result in greater good than encouraging the installation of good lightning rods. Buildings should not be protected with "Makeshift" or "so-called" lightning rods but to be protected only with lightning rods that are fully efficient, installed in a workman-like manner. Extracts from Fire Prevention.

LIGHTNING AND ITS PREVENTION.

Years ago it was the common practice throughout the country when erecting a new house or barn to arrange for lightning rods to be placed upon them, but owing to the acts of unscrupulous lightning rod agents in not only charging exhorbent prices for the rods an the erection thereof, and the defective manner in which they were placed, making them absolutely useless in time of need, the farmer naturally became justly indignant at the deception practiced and it only became necessary when a stranger approached a farmer to say "Lightning Rods" to make the reception of the visitor anything but pleasant. Times have changed and manufacturers and agents selling lightning rods recognize that to over come the prejudices that existed against their business they must conduct it in a straightforward legitimate manner, free from all attempts at deception or fraud in either material or erection of rods, and must give a dollar value for a dollar received. From the result of a thorough, painstaking investigation made throughout the country as to the protectiveness of lightning rods, it is the positive consensus of opinion, by the investigators, that

lightning rods do protect, resulting in saving rodded buildings as against those unrodded. It is the duty of every farmer, especially at this time, to protect property and crops, and it can be accomplished at a small cost compared with possible financial loss compared by neglecting to avail himself of a known protection. The following extracts from various reports show conclusively the protective value of rods and the relative loss occurring in rodded and unrodded property:

In 1915 there were reported to this Department 741 fires caused by lightning. About ninety per cent. of these fires occurred in buildings that were not rodded. The Department determined to ascertain, if possible, whether or not means could be adopted to prevent this property and financial loss and in its endeavor communicated with the State Fire Marshals of other States and insurance companies to obtain the results of their observation as to the efficacy in preventing fires by the use of lightning rods.

EXTRACTS FROM AN ADDRESS DELIVERED AT THE WINTER FAIR, AT GUELPH, ONTARIO, BY PROF. W. H. DAY, OF THE ONTARIO AGRICULTURAL COLLEGE.

"Lightning rods properly installed are almost an absolute protection and out of every $1,000 worth of damage done to unrodded buildings by lightning, $999 would be saved if the buildings were properly rodded— a very strong statement—but it has taken thirteen years of investigation to compile data that enables us to make that statement.

"From reports of eighteen insurance companies it is found that in every two hundred farm buildings insured, forty-two are rodded, but out of every two hundred struck by lightning only three are rodded—we should expect forty-two if the rods were no good. Or, stating it in another way, in every seven thousand unrodded buildings insured by these companies, thirty-seven were struck and several burned, but out of every seven thousand rodded ones, only two were struck and only slightly damaged, while we should expect thirty-seven if the rods were no good. Hence, an unrodded building is eighteen and one-half times as likely to be struck as a rodded one is. These re-

sults cover all kinds of rods and doubtless include improper work. To prevent damage in thirty-five out of a possible thirty-seven means an efficiency of 94½ per cent., so I am fully justified in concluding that experience establishes the claim of science, that lightning rods as installed, proper and improper, do actually prevent lightning from occurring in ninety-five cases out of one hundred where strokes would occur if the building were not rodded.

"But, despite our logic, we do not expect to convince all our hearers by reports covering one year. For those who want reports covering a perid of years, we have them. Our attention has been drawn to the states of Iowa and Michigan where advanced work was done in rodding. In September last, I was able to visit these states and examine conditions for myself. In Iowa, I found some valuable compilations had already been made for the eight years, 1905-1912 included. Fifty-five insurance companies have reported the precentage of rodded buildings covered by their risks and also the claims paid on rodded and unrodded buildings. These companies report that 50 per cent. of all their risks are rodded. The total lightning claims paid by all these companies for the whole eight years on rodded buildings was only $4,464.30, which was an average of $10.15 per company per year. On unrodded buildings lightning claims of $341,065.32, which is an average of $775.15 per company per year, and the number of unrodded buildings was the same as of rodded ones. Comparing $775.15 with $10.15 we see that the rods save $75 out of an expected loss of $76 if the buildings were not rodded, and it is possible that some improper rodding is included as the work was not inspected. This case is not as yet complete. Iowa reports cover some defective rodding. True efficiency of lightning rods can only be determined when we consider a large number of properly rodded buildings. The Farmers Mutual Lightning Protection Insurance Company, of Michigan, insured only rodded buildings and only after the company's inspectors have carefully examined the rodding. For the four years, 1909-1912 inclusive, in a business which totalled $56,000,000, this company paid $3,200 for damage done to buildings by lightning in three claims, all traceable to minor defects in rodding which were overlooked by the company's inspector. The Patron's Mutual Insurance Company, which does business all over Michigan, insures both rodded and unrodded buildings. In the same four years on a total risk of $60,000,000 this company paid lightning damage to the extent of $33,-

000, which is 1,008 times as much as the protected company paid. The Secretary of the Patron's Company told me that in eleven years they had only three small claims for lightning damage on rodded buildings. They report twenty per cent. of their risks rodded. Deducting these rodded risks we see that the $32,269 damage occurred in unrodded risks amounting to $47,753,818. At this rate the loss of $55,000,000 of unrodded risks, the same as the protected company would be $37,282, which is 1,168 times as great as the loss on the same amount of properly rodded risks. Thus we see that when the damage to properly rodded buildings amounts to $1, the damage to unrodded buildings amounts to $1,168, or in other words the rods saved $1,167 out of a possible $1,168 indicating an efficiency of 99.91 per cent. or $999 out of $1,000.

"The Patrons Mutual Assessments per $1,000 has been as follows:

Year.	Unrodded.	Rodded.
1909	$2.50	$1.50
1910	3.33	2.50
1911	2.50	1.85
1912	3.33	2.00
1913	3.33	2.00

"During the same five years the assessments of the protected company have been as follows:

Year.	Assessments per $1,000.
1909 and 1910	$2.00
1911	1.30
1912	1.20
1913	2.00

"While in Michigan I spent two days in Lansing in the Department of Insurance, examining the original reports of ten companies. Five of them were carrying both rodded and unrodded classes. The assessment on unrodded buildings is $2.96 per $1,000 of risk and on rodded it is $1.89, showing a difference of $1.07. Taking the rodded assessment as a standard, the assessment on unrodded ones is $56.6 per cent. greater.

"This is not theory or science. It is the practical experience of coll-headed insurance men. In Mutual Iowa Companies, where the assessment is in direct proportion to the losses incurred, this is the protective value of rods reduced to dollars and cents in insurance

rates. Insurance men the world over cannot ignore the experience of the Michigan companies and the farmers the world over should profit by the Michigan farmers."

You cannot dodge lightning, but you can protect your building from being destroyed by providing a means of escape for the pent up electricity should it attack your buildings. The war is on for protection. Why not enlist in the cause at once having your buildings rodded and save yourself from unnecessary loss?

SUGGESTIONS FOR RODDING APPLYING TO ALL STRUCTURES.

Either copper or iron is satisfactory for conductors. One advantage of iron over copper is its higher fusing point, but iron should not be used in locations difficult of acess where corrosion is likely or possible owing to the necessity of frequent painting to guard against such corrosion.

Conductors when made of copper to be soft-drawn in the form of either tape or stranded cable. Except as noted below, the conductor in each case to weigh not less than six ounces per foot. Where cable form is used, no single copper wire to be less than No. 12 B. & S. gauge, while if from tape the thickness to be not less than 3-32 inch.

When used on residences, barns, stables, stores and similar buildings, where the maximum height of any point does not exceed sixty feet, and where corrosion is not liable to occur to any extent, copper cable to weight not less than three ounces per foot, no single wire being less than .046 diameter.

Conductors when made of iron to be in the form of either heavy tape or pipe. The tape conductor to weigh not less than $1\frac{1}{4}$ pounds per foot and to be not less than 3-32 inch thick. If pipe is used the standard weight of $\frac{3}{4}$ inch pipe would be satisfactory. Iron used in any form should be thoroughly galvanized to prevent corrosion, and may also be painted if desired.

Conductors to have as few points as possible, these to be mechanically and electrically secured and to be protected from corrosion.

Conductors never to be insulated but to be fastened securely in place, suitable allowance being made for expansion, by clamps of same material as conductor, the vertical rods being carried a sufficient distance from the wall to avoid sharp bends around projecting masonry or brick work. In all cases, as straight a run as possible should be provided and the conductors should incline downward. The conductors should never be run through iron pipes.

Conductors to be run as far as practicable from interior piping.

Air terminals to be solid, not less than $\frac{3}{4}$ inch in diameter except on residences, barns, stables, stores and similar buildings, where they be of tubing not less than $\frac{5}{8}$ inch in diameter with wall thickness not less than .31 inch. Terminals to extend not less than 18 inches above the point protected.

All exterior metal work, such as metal roofs, gutters, ventilators, railings, chimney hoods, etc., to be connected with the lightning rod system below the line of the metal work itself, or to be separately grounded by regular conductors.

All interior masses of metal, such as girders, beams, waterpiping and any structural iron or steel, though under no consideration gas piping to be securely connected to the system at their highest and lowest points, the connecting bonds being the regular conductor.

A permanent and reliable ground is absolutely essential, and by far the best ground can usually be secured by connection to underground metallic water piping. When this is impracticable, ground plates, driven pipes, or the equivalent are recommended.

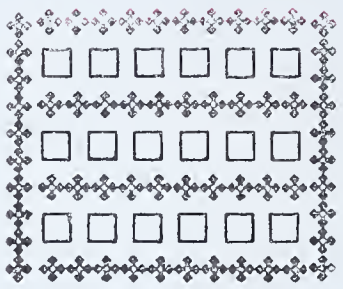
Connection to piping to be made preferably by soldering the conductor to a brass plug and forcibly screwing the plug into the pipe fitting, or when the pipes are of cast iron, into a hole tagged into the pipe itself; or, by sweating the conductor into a lug attached to an approved clamp, and firmly bolting the clamp to the pipe after the rust and scales have been removed.

In the case of a farm building having a well outside and a pump suction pipe running to the building, a reasonably good ground may be obtained by connecting the conductor to the pipe, provided the pipe at some point is in earth below permanent moisture level.

Connection to ground plates to be made by riveting and soldering, and the connection to be thoroughly protected against corrosion by painting. The ground plates to be of copper and not less than No. 16

Stubb gauge about three feet square and buried below the permanent moisture level with about two feet of crushed coke or charcoal above and below it.

Connection to driven pipe to be made by soldering the conductor into a brass plug and forcibly screwing the plug into a coupling on the upper end of pipe. The lower end of pipe to be well below permanent moisture level.



Monthly Bulletin

"MAKE PENNSYLVANIA FIREPROOF"

Department

OF THE

State Fire Marshal

OF

Pennsylvania

OFFICE—ROOM 166
Capitol Building, Harrisburg, Pa.
G. CHAL. PORT, State Fire Marshal

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MONTHLY BULLETIN

Department

OF THE

State Fire Marshal

OF

Pennsylvania

G. CHAL. PORT, State Fire Marshal

Bulletin of Information for the Public

AUGUST, 1917

HARRISBURG, PENNA.:
J. L. L. KUHN, PRINTER TO THE COMMONWEALTH
1917

Plate 1. Showing dilapidated condition of building, Bradford, Pa. Ordered repaired or torn down and material removed.

Plate 2. Showing dilapidated condition of building, Bradford, Pa. Ordered repaired or torn down and material removed.

IN A GREAT WORLD FOOD CRISIS WE ARE BURNING UP $10,000,000 OF GRAIN ANNUALLY.

Food is the cry of the world. In this time of dire extremity the hungry eyes of our Allies in Western Europe turn to the United States and Canada.

The great granaries of Russia and Roumania are either in the hands of the Central Powers or are effectively closed to the Allies. Almost entirely upon us rests the terrible responsibility of feeding the allied armies and peoples. Even under ordinary circumstances this would be a tremendous task.

But to-day, submarines, an exceedingly short winter wheat crop, an over-taxed rail transportation system and the calling of thousands to arms have combined to render the successful fulfillment of this, our bounden duty, a truly Herculean labor.

Maximum production of all foodstuffs, particularly grain, is important. Rigid conservation of what our heightened energy produces is essential.

The absolute necessity for this conservation has made fire protection a patriotic duty—in fact, has consecrated it.

Why?

The condition of the winter wheat crop on June 8th is estimated by the Government to be less than 71 per cent against an average condition for the past ten years of 81½ per cent. On the basis of this condition the estimated yield for 1917 will be more than 20 per cent less than in 1916, and approximately 50 per cent less than in 1915. In all probability the crop will be the smallest since 1904, the average yield per acre being but little more than thirteen bushels.

Even though the present promise of a good spring wheat crop materializes, the shortage is serious. It becomes ominous when it is realized that instead of even conserving our existing stocks of wheat from last year's crop, we have actually wasted those stocks by allowing fire to seriously ravage them.

In the first five months of this year, according to records compiled from the New York Journal of Commerce, the fire loss in grain elevators has been $4,942,000 and in flour and cereal mills, $904,000. It is of no consequence that these colossal losses are in part made good by the insurance companies. You can't eat money and all the insurance policies in the world can't add one bushel of grain to our food stocks.

Even on the basis of present prices for wheat any such loss as this means practically that the output of some 200,000 acres of farm lands has gone up in smoke. This loss refers only to cereal stocks in flour mills and elevators and includes also the building losses.

During the same period other food stocks have burned up in stores, in farm buildings and in warehouses to an alarming amount. In fact, Insurance Commissioner M. J. Cleary, of Wisconsin, says:

> "In Wisconsin, during the year 1916, fires in grain and hay stacks, barns, granaries, cheese factories, creameries, elevators, flour mills, malt houses, wholesale houses, warehouses and stores caused a loss of $2,777,520. Approximately two-thirds of this loss was on food products."

These losses taken the country over are being exceeded this year. The National Board of Fire Underwriters says that at present prices not less than $10,000,000 worth of grain is burned up annually. In fact, we are merrily burning up food enough to supply a very considerable army for a year.

Fire protection experts have grasped the real import of these losses but it is doubtful if Government officials and the business men engaged in producing and storing food products have awakened to the fact that the insurance paid these victims of fire did not replace a single pound of the food products destroyed. These fires, therefore, simply acted to decrease the supply, increase the shortage and increase the price.

It is impossible to refer specifically to the many classes of risk where food products are destroyed in case of fire, but as an indication of the most valuable and important class of these risks, as well as the most hazardous, we have made an investigation of the flour mill and grain elevator industries, to see what an adequate fire protection can promise in the way of stopping this senseless destruction of our vitally needed grain supplies.

The records of the National Fire Protection Association, covering seventy fires in flour and cereal mills protected by automatic sprinklers show that in 54.3 per cent of the cases the fires were completely extinguished by the sprinklers and that in 37.2 per cent of the cases the fires were successfully held in check. Of the so-called unsatisfactory fires making in all 8½ per cent of the total, over half were due to partial sprinkler installation or exposure fires, leaving only three fires out of the seventy where the type of construction was such as to handicap proper sprinkler performance, or where the hazard was too severe for the ordinary sprinkler system.

The same records show for grain elevators a total of fifty-two fires, 38½ per cent of which were completely extinguished by the sprinklers and 32.7 per cent successfully held in check. Out of the remaining

so-called unsatisfactory fires there were only six where the hazard of occupancy or the nature of the building were such as to make unsatisfactory the performance of automatic sprinklers.

Real patriotism would seem to demand this protection in the present crisis regardless of cost, because true conservation in this instance would seem beyond the bounds of economics. Money this country has in plenty, but money is not food—and food is the essential requirement.

But as a matter of fact this safeguarding by means of automatic sprinklers of these flour mills and grain elevators with their precious food supplies, is not an uneconomic measure. Rather, such absolute fire protection is demanded by plain common sense. In other words, such protection would in most cases be a paying business proposition to the owners of these hazardous properties.

MR. MERCHANT.

Fire Prevention, Fire Insurance and Business are closely related to each other, but usually thought is expended on the latter, disregarding Prevention entirely. You would not, and positively could not conduct your business without fire insurance, for if you attempted to do so you would find your line of credit cut off, as fire insurance is essential to the conduct of business, it being the basis of commercial credit and security back of all bonds and mortgages.

Fire insurance is simply the indemnifying of one person for loss through fire funds contributed by others; or, in other words, a large number of persons contribute small sums (premiums) in order that such of them that would otherwise lose a larger amount through fire will receive in whole or part the amount of their loss. Many manufacturers and merchants are under-insured. They do not carry insurance sufficient to properly protect the property at risk, and excuse themselves for this neglect owing to high premiums; others believing that because they never sustained a loss by fire they never will. No man can honestly foretell a loss by fire. It comes when least expected and when least prepared. Do not be in the unprepared class. Let fire prevention be ever before you in the conduct of your business, no matter how large or small it may be, for your activity in the prevention of fire means a reduction in insurance rates and consequently allowing you to carry more insurance, and at lower rates, as the rates are based on condition of property and surroundings. Fire prevention includes and covers every point on

which rates are figured. You are responsible for the rates, it being in your power to make them higher or lower, and as soon as you realize this fact, the sooner you will take more interest in fire prevention and endeavor to improve conditions. This not only applies to your own property, but to the community at large, as premium rates are figured on the construction of buildings, occupancy, lighting, area, police system, fire department, night watchmen, pavements and width and condition of streets. You can aid in reducing the rates by assisting in improving your town or city and the condition of your own property. Do you know that if you keep gasoline in a building you are charged for it as you are for any other explosive, or for anything that may be a fire hazard? So that if you remove fire hazards and introduce fire prevention and protection in order to eliminate the danger of destruction by fire, you are doing your part to reduce fire insurance rates.

Gasoline is one of the most common fire hazards found among the general stores, hardware stores and industrial establishments. Nothing is thought of storing fifty or a hundred gallons of gasoline in a metal tank in the basement or outside of a building. It is a common thing nowadays, and we come in contact with it continually. In doing this you are not only taking chances for the destruction of property, but also for loss of life. Gasoline throws off an explosive vapor constantly even at low temperature. The explosive force in one gallon of gasoline properly mixed with air and compressed is equal to $83\frac{2}{3}$ pounds of dynamite. This means that if you have 100 gallons of gasoline on hand you are storing the equivalent in explosive force to 8,366 pounds of dynamite. Dynamite will only explode from two or three causes which may be easily guarded against, and which must occur in its immediate vicinity.

The vapor from gasoline is heavier than air. It settles to the floor and runs along the same much as a stream of water would, only that it is an invisible stream. The vapor will settle and remain in a depression in or under the floor for days and even weeks unless disturbed by a circulation of air. A spark will cause the accumulated vapor to explode. This spark does not necessarily have to come from a lighted fire, but may occur from a person striking a nail in their shoe on a nail in the floor, or other similar unavoidable causes. Under a certain atmospheric condition spontaneous combustion will also occur in this accumulated vapor. The silent and invisible creeping of this vapor from place to place awaiting favorable conditions to strike the blow that means loss of life and property is a terrific thing to think of. It is past understanding, in view of these facts, that merchants with their entire capital invested in business will give so little thought to safeguarding their interests. Knowing a building to be heated by stoves or furnaces in the base-

ment, they will at night lock up this explosive in a warehouse or building adjacent to or connected with the store or factory. After locking up fire and this explosive vapor together, they will in effect wager their entire investment against the merely nominal expense or fire proof, evaporation proof, vented storage tanks, which would prevent this vapor and fire getting together.

Kerosene and oils of other kinds are not as dangerous as gasoline, but are nevertheless dangerous and should be stored with just as much care and handled in the same way. Especially is this danger true of linseed oil, paint oils and turpentine.

The careless disposition of rubbish and oily rags is another common occurrence which is keeping the fire waste up and consequently your insurance rates. The alleys, byways and basements of buildings in some of the leading cities of this State have been found to be in a condition that is beyond description—alleys filled with boxes, rubbish, waste trash and refuse, and basements in like condition, where a spark from a lighted pipe, cigar, cigarette, or chimney could start a blaze, and if such a thing occurred at the right time of night with a strong wind, a conflagration might occur which would wipe out an entire city. Such conflagrations have occurred from this very source. Especially are the above conditions true in winter. People are in the habit of letting things pile up in winter and doing housecleaning in the spring. We have our biggest fires in winter, and at this time of the year it is hardest to fight them. EVERY DAY SHOULD BE A CLEAN-UP DAY! If rubbish is burned every night or morning either in the furnace, or in metal oven with mesh wire over the top, the danger of fire from the carelessly lighted rubbish pile would be eliminated. If it is not destroyed every day the pile grows and the danger of fire increases in like proportion. Oily rags will produce spontaneous combustion and should always be kept in closed metallic receptacles. Many instances can be cited where great destruction of property has been wrought by fire starting through spontaneous combustion of oily rags left lying around in some obscure corner.

Thousands of business men fail to safeguard their property which strict economy and industry have created, nor do they give a thought to the protection of the lives of their employes. Many probably carry insurance and in case of fire expect to be re-financed from that source. But no insurance can restore lost trade, which becomes scattered as the inevitable result of fire loss. Nor can insurance bring to life the victims of the terrible scourge.

TO THE FARMER.

At last the public has awakened to a realization that the much talked of preparedness for emergencies is an actual necessity and from one end of the country to the other come reports of hustling at tremendous expense to make amends for neglecting the simplest precaution of "In time of peace prepare for war." This same subject applies to the farmer. You are about to gather the results of your season's labors and probably anticipate the porfits accruing from your exertions in bringing forth from old Mother Earth the bountiful returns due to careful husbandry. No doubt you intend storing your grain and other products in the same manner as in years past and have given no particular thought to preparedness against fire, which so unexpectedly comes and in so short a time destroys the result of your season's toil; bringing with it heavy loss and discouragement, which is hardest to bear.

Profit by the experience and loss of others and take precaution against this occurring to you by putting your buildings in order, cleaning away all material that might in any way invite a fire. See that the barn and other buildings are in good condition; that old hay and straw are removed before storing with new; that new hay or straw is thoroughly dry before being put in the mow; that there is ample ventilation; that old machinery, wagons or other trash is removed and that no oil, oily or greasy rags that may have been used when greasing machinery or wagons is left lying around, inviting spontaneous combustion. Protect yourself against a possibility. Don't believe that because you never had a visitation from the dread fiery fiend that you never will—no one can tell. Use precaution and lessen the chances. It may take a little time from your other work, but it will be labor well spent and pay well for the time expended.

Fires are practically from three causes: Lightning, carelessness and design, all of which are within the power of man to prevent. Of the first, statistics gathered from many states and from reports from fire insurance companies of losses on buildings struck by ligtning show that the loss on buildings rodded compared with unrodded buildings, is practically nil, and proves conclusively that you can protect your buildigs by the use of properly erected lightning rods. Many insurance companies, recognizing the protection afforded by the use of lightning rods, make a substantial reduction in rates where buildings are rodded. Why not profit by the experience of others and take advantage of a known protection against an element that causes a loss of thousands of dollars yearly, and generally comes when your heavy work is finished and your crops are housed ready for market?

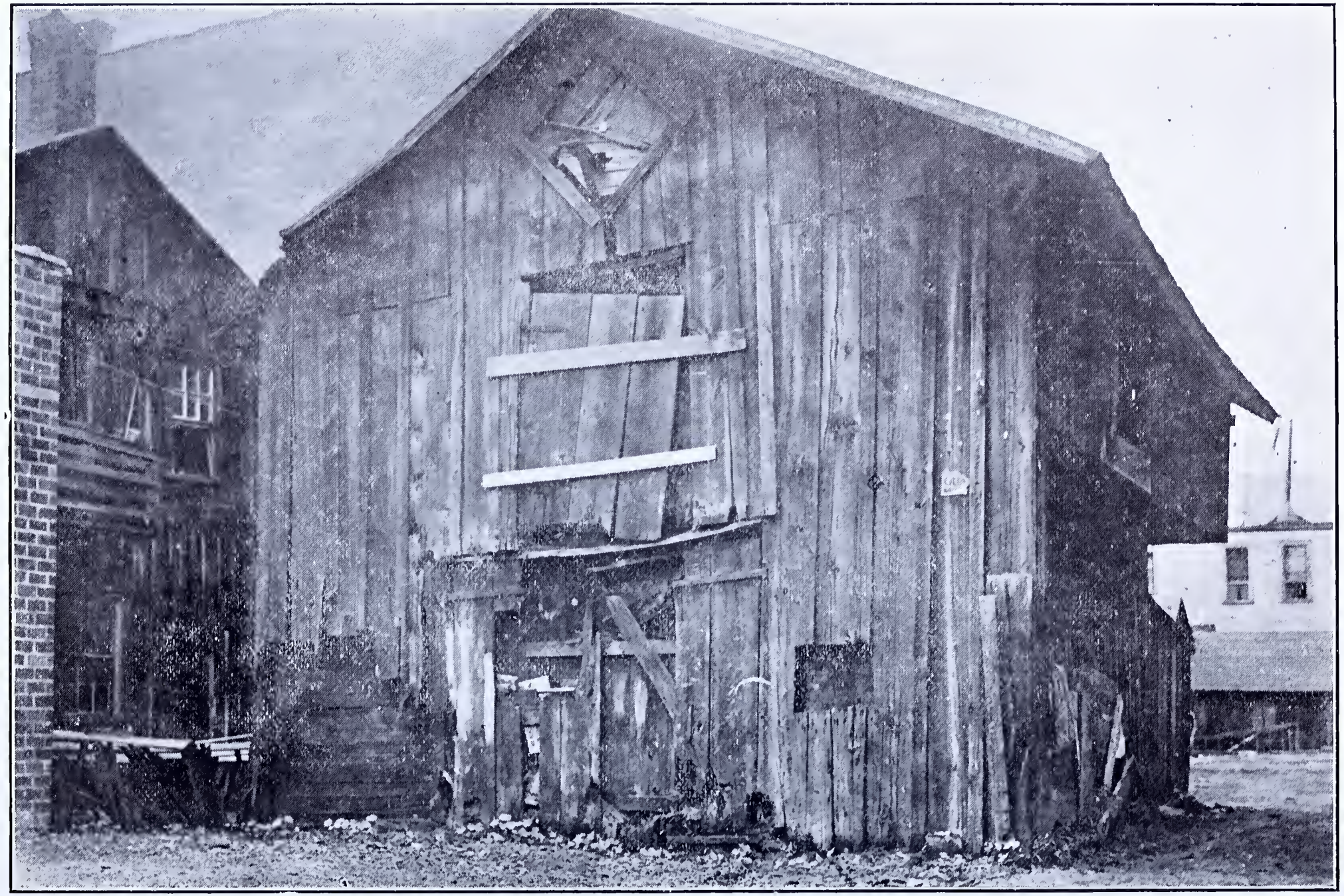

Plate 3. Showing dilapidated condition of building, Bradford, Pa. Ordered torn down and material removed.

Plate 4. Showing dilapidated condition of building, Bradford, Pa. Ordered torn down and material removed.

Of the second cause, over 50 per cent. of all fires are from carelessness, which is entirely unnecessary and criminal to a degree. Get out of the careless class and see that you do not have a loss from this cause. Prevent it by making repairs to dilapidated buildings. Remove and destroy all fire breeding material. Use care in cutting and burning weeds and rubbish. Keep buildings and surroundings clean and you will reduce the cause of a possibly disastrous fire. By such forethought and action you will be the gainer both in pocket and in ease of mind. Be careful at all times, particularly during threshing time. Safeguard your buildings by seeing that the engine used is removed a safe distance from buildings. If a wood or coal burning traction engine is used see that it has a first class spark arrester in good order and in its proper place. If an oil burning engine is used, do not allow the oil to be stored in the building. Keep it outside and use care in handling it. Be sure all chaff or waste is removed from around thresher and that no oily waste is left lying around. Use an ounce in prevention and save pounds of loss. It does not take much time for a little thought in fire prevention and it may save your buildings and season's crops. Remember that many a good farmer has been put down and out by a fire loss which a little judgment and care would have prevented. Use the same precaution to prevent a fire as you would take if you expected one. Put up notices prohibiting smoking in or near barn, hay-mows, or out-buildings and see that they are complied with.

Don't go into barns or other buildings with an open light.

Don't fail to burn all rubbish, but don't do it near buildings, and see that the fire is out before leaving.

Don't keep matches in other than metallic boxes and out of reach of children.

Don't keep automobiles, gasoline engines or gasoline in barns. Put them in separate buildings made of galvanized iron, stone or brick.

Don't use oil lamp or lantern when filling automobile or engine tank.

Keep at least six (6) buckets of water in passageway of barn. Mark "For Fire Purposes Only," and see that they are always kept filled.

Keep fire extinguishers both in house and barn.

Keep a ladder of sufficient length hanging on the side of the barn for emergency and have foot holds placed on roof of barn.

Watch electric wires in house and barn; have them frequently inspected.

Build a cistern near barn with a good force pump and hose attached.

If you have no fire fighting force near you, form one among your neighbors, and don't hesitate to call them when services are needed, nor to promptly respond when they call you.

Be sure your property, crops, implements and household goods are fully insured; but don't over insure.

Fire insurance does not replace lost property. It only helps to pay the loss and is paid by all the people. Insurance is collected from all and paid to him who has a fire. Hence the man who has a fire intentionally, or unintentionally, takes money from the pockets of his neighbors. Fire insurance is an assessment upon all to pay one.

Of the third cause, Design, it can be divided into three classes:

1st. Maliciousness or revenge, there being but few of this class.

2nd. Insanity known as Pyromania.

3rd. The burning of property for personal gain through the collection of insurance money can be attributed to a number of reasons: Over-insurance, adverse circumstances, temporaray financial embarrassment, family disputes and where quick sales are necessary, even though it be at a loss. Persons causing fires of this class should be accorded the treatment of the lowest criminals, as the crime is always premeditated and there is no hesitation in jeopardizing the lives and property of others to accomplish the end.

Every fire makes every man struggle harder for a living by compelling him to spend for his neighbor's waste. Prepare for fire prevention. This you owe to your family and neighbors. Get awake to your own interest and become actively interested.

LOSSES BY FIRE IN MARCH, 1917, REPORTED TO THE STATE FIRE MARSHAL.

COUNTY.		COUNTY.	
Adams,	2	Juniata,	1
Allegheny,	126	Lackawanna,	72
Armstrong,	18	Lancaster,	24
Beaver,	15	Lawrence,	11
Bedford,	4	Lebanon,	3
Berks,	42	Lehigh,	12
Blair,	45	Luzerne,	64
Bradford,	5	Lycoming,	25
Bucks,	7	McKean,	22
Butler,	8	Mercer,	26
Cambria,	30	Mifflin,	7
Cameron,	1	Monroe,	1
Carbon,	10	Montgomery,	32
Centre,	8	Montour,	6
Chester,	17	Northampton,	9
Clarion,	5	Northumberland,	7
Clearfield,	16	Perry,	3
Clinton,	3	Pike,	1
Columbia,	14	Potter,	4
Crawford,	16	Schuylkill,	60
Cumberland,	11	Somerset,	9
Dauphin,	30	Susquehanna,	9
Delaware,	20	Tioga,	13
Elk,	3	Venango,	18
Erie,	41	Warren,	12
Fayette,	20	Washington,	31

COUNTY.		COUNTY.	
Franklin,	9	Wayne,	4
Greene,	1	Westmoreland,	32
Huntingdon,	4	York,	19
Indiana,	8		
Jefferson,	4		1,080

PROPERTY BURNED IN MARCH, 1917.

Dwellings,	710	Garages,	15
Barns,	43	Other structures,	158
Stores,	91	Automobiles,	12
Stores and dwellings,	34		
Manufactories,	17		1,080

MATERIAL OF CONSTRUCTION OF BUILDINGS BURNED IN 1917.

Wood,	880	Stone,	7
Wood and brick,	4	Other material,	35
Wood and stone,	3		
Brick,	150		1,080
Brick and stone,	1		

CAUSES OF FIRE IN MARCH, 1917.

Adjoining,	153	Lantern,	1
Backfire,	7	Lightning,	6
Candle,	4	Matches,	60
Cigar and cigarette,	2	Moving picture machine,	1
Clothing and stove,	5	Oil stove,	12
Defective chimney,	156	Open fire,	18
Electric wiring,	18	Open light,	21
Electric heater,	1	Overheated furnace,	9
Explosion,	19	Overheated stove,	21
Forge,	4	Rubbish,	8
Friction,	3	Smoking,	20
Furnace,	2	Sparks—tack,	2
Gas explosion,	4	Sparks—chimney,	49
Gas heater,	2	Sparks—locomotive,	4
Gas jet,	17	Stove and stove pipe,	103
Gas leak,	13	Steam pipe,	4
Gas stove,	11	Spontaneous combustion,	7
Gasoline explosion,	7	Suspicious,	3
Hot ashes,	14	Thawing pipes,	73
Hot grease,	7	Torch,	2
Hot metal,	4	Undetermined,	174
Incendiary,	14		
Lamps,	15		1,080

BUILDING CONSTRUCTION.

Let fire prevention in this State not only start with the general cleaning up and destruction of all fire breeding material, but also in the construction of buildings. If you are about to build a new home or other building, or rebuilding, take seriously into consideration building with fire proof material. Prominent architects have estimated that at the present price of building material fire proof structures can be erected at a cost not to exceed ten (10) to fifteen (15) per cent. more than non fire proof, and considering the deterioration of fire proof buildings to be about one per cent. as against four per cent. of ordinary buildings and that they rent better; that money can be borrowed on them on better terms; that the insurance is less; that they are vermin proof, cooler in summer and warmer in winter, it can readily be appreciated that it is much better and of self-interest to build the fire proof building rather than non fire proof whenever a building is to be of a permanent character.

A man may have the right in building a home to jeopardize his life and property and that of his family and take his chances with the insurance companies, but when he can with a small additional amount build a permanent home, one that he knows will withstand fire and not be a trap for his own family or a menace to his neighbor's property in his own interest and the interest of fire prevention and protection he should be compelled by law to build from fire proof material.

If one-half of the money spent for fire losses was expended for better building construction the annual loss by fire would soon begin to decrease. Improvements along the line of better construction should be urged in all communities, and it should be the duty of all persons charged with the inspection of buildings, or issuing permits for construction to urge that all buildings be built of fire proof material.

It is the desire of this department to assist in materially reducing the per capita fire loss and we ask your co-operation as it is for your especial benefit. This per capita fire loss amounts to $3.00 per annum, or, in other words, the head of a family of five has to pay annually $15.00, which really means a tax because of excess premiums over insurance paid and the heavy cost of protection owing to faulty construction. The loss is absolute and irrecoverable. Not one dollar of it ever comes back. It is a heavy tax and nothing received in return. Will you aid in fire prevention and protection?

CO-OPERATION NEEDED.

The work of the State Fire Marshal is directed towards the saving of property which is uselessly sacrificed by neglect, carelessness, and the folly of owners or tenants, and he is using every effort to accom-

plish this purpose by advocating fire prevention as a means which is within the power and knowledge of every person to assist in forwarding. It is indisputably to your interest to do so, not only from an individual point of view, but your standing in the community in which you live demands that you lend your aid to any movement that is of such special benefit as the conserving of the lives and property of the citizens. By co-operating with the work of the Department the citizens of the State, regardless of station, whether they be owners of property or merely occupants of one or more rooms, can produce results which will greatly repay for the exertion put forth.

Fire prevention, like fire fighting, is an evolution; not a revolution. Education will, in this important movement to which no particular attention has been heretofore given, do much to bring about a realization that the time is now here for this evolution. Take it to yourself. Would you not rather expend some of your leisure time to the safe-guarding of your property, rather than neglect to do so and sustain a loss by fire that is absolutely unnecessaray? You can do this by studying your interest, getting busy and making a thorough inspection of your home or of any other building that you have an interest in and immediately giving orders to CLEAN UP and see that it is done, so that hereafter no accumulation of anything that would cause fire is permitted to remain in or about the premises.

Carelessness is one of the greatest, if not the greatest, causes of fires; during the winter much useless material may have accumulated and been stored away in closets, cellars, attics or other out of the way places just to get it out of sight until the spring CLEAN UP. This should not be; it is a dangerous practice, There should be no packing away of useless articles or other material of inflammable nature. All such should be immediately removed and destroyed. If this is done it will make house cleaning much easier and lessen the causes of many fires. Use care in getting rid of rubbish. If burned do not do so on a windy day; nor should it be piled near a building. Be sure not to leave a smouldering fire. A few sparks from a rubbish fire may fall on a roof and cause a destructive fire. Won't you adopt the plan of having a CLEAN UP DAY every day and help reduce the fire waste, which is of such enormous cost, not only to you, but to all your neighbors.

If rubbish is burned every night or morning, either in the furnace or in a metal oven, with mesh wire over the top, the danger of fire from careless lighting will be eliminated. If it is not destroyed every day the pile grows and the danger of fire increases in like proportion. Oily rags will produce spontaneous combustion, and should always be kept in closed metallic receptacles. Many instances can be cited where great destruction of property has occurred by fire started through the spontaneous combustion of oily rags which were

thrown in a corner or closet and forgotten. Thousands of business men fail to safe-guard their business, which strict economy and industry have created. Nor do they give a thought to the protection of the lives of their employes. They, of course, carry insurance and, in case of fire, expect to be refinanced from this source; but those who have experienced such a loss know that no amount of insurance can restore lost trade which becomes scattered as the inevitable result of fire-loss which was probably caused by carelessness and could have been avoided by the prompt removal of fire-breeding material and keeping premises clean.

Fire prevention should dictate to every parent to see that the house in which he lives is a safe abode for his family. There should be protection against physical danger, theft, disease, fire, etc. The first two dangers should be taken care of when the house is built, while the last two are matters of more or less constant attention. When disease is indicated by symptoms, you immediately call a physician, but when fire threatens you, you are unprepared, though you should realize that danger from that source is constant and comes when least expected. You can be prepared by the introduction of fire extinguishers that can be used by even the children, and should do so and at once; they are considerably less expensive than a fire and have been the means of saving many lives and much property. Two or three one-quart extinguishers placed through the house, over ready for emergencies, will certainly produce a sense of security in the minds of the inmates and perhaps be instrumental in saving from destruction the property that represents the expenditure of years of energy and deprivation of many pleasures.

If you think well of this Bulletin and want others to see it, who are not as fortunate as you in receiving it, take it to the editor of your paper and ask him to publish it so that all his subscribers can be benefited and aid in the work of fire prevention.

Monthly Bulletin

"MAKE PENNSYLVANIA FIREPROOF"

Department

OF THE

State Fire Marshal

OF

Pennsylvania

OFFICE—ROOM 166
Capitol Building, Harrisburg, Pa.
G. CHAL. PORT, State Fire Marshal

VOL. V SEPTEMBER, 1917 NUMBER 18

P38.32
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SAFEGUARDING INDUSTRIES

President Wilson in a statement says, "Preventable fire is more than a private misfortune. It is a public dereliction. At a time like this of emergency and of manifest necessity for the conservation of national resources, it is more than ever a matter of deep and pressing consequence that every means should be taken to prevent this evil."

VOL. V No. 18

MONTHLY BULLETIN

Department

OF THE

State Fire Marshal

OF

Pennsylvania

G. CHAL. PORT, State Fire Marshal

Bulletin of Information for the Public

SEPTEMBER, 1917

HARRISBURG, PENNA.:
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1917

FIRE PREVENTION CAMPAIGN.

Work and Publicity Should Go Hand in Hand—Many Opportunities for Further Education of the Public.

Every official and citizen interested in the reduction of fire waste and consequently in the success of fire prevention day should obtain all the publicity possible for the fire prevention idea on or near October 9th. If a clean-up campaign is inaugurated it will be easier to concentrate all display publicity on the one idea of fire prevention. The practical work and the publicity should go hand in hand—real accomplishments with publicity and real publicity for a workable program.

Ask the merchants in your city or borough to emphasize fire prevention in newspaper ads and window displays? It should be especially easy to interest those merchants who are active members of the National Credit Men's Association, as they are constantly receiving educational matter on fire prevention in their organization bulletins. Hardware stores especially will find it easy to prepare fire prevention window displays, almost every business sells something of fire prevention value. Many merchants will use fire prevention information in their street car ads, if approached in the right way and become interested in the propaganda.

Every trade journal offers an opportunity. Officials and others will find teachers' journals of certain types ready to grant space for such information as can be utilized by the teacher; the farm journals are subject to the same rule. No limit can be set to the interest which can be aroused if the campaign is begun early and proper support solicited, and now is the time to start. Pennsylvania has been derelict in its duty in failing to establish a fire prevention day and instead of being at the head must now of necessity follow, as many states started this movement last year and from reports profited in a reduction in fire waste by activity in the effort to remove hazards which caused such enormous fire losses throughout the State. This loss is preventable and a reduction can be accomplished by individual interest on the part of the citizens. Let each person assume a personal responsibility and set apart October 9th as Fire Prevention Day and observe the day by a general cleaning up and removal of all rubbish, waste and trash from premises. See that all heating apparatus and chimneys are carefully gone over and placed in proper condition for

winter use; see that all public and private institutions, hotels, asylums, factories, theatres and all other buildings be carefully inspected and necessary repairs or alterations be made that will further protect the property and the safety of occupants; see that local authorities give especial attention to adopting better building regulations, better fire protection by the installation of up-to-date apparatus, and that in the interest of fire prevention fire drills be held in all public and private schools and industrial establishments.

These are the times of conservation and every one is rightfully expected to do his bit; and in what better way can you do it than by conserving life and property.

ACCEPT ADVICE.

Insurance statistics prove that a large percentage of fires originate on the roof. Fire means waste, and waste means loss. It matters not if the building is insured, the loss is just as great as is the amount collected from the public in the form of insurance rates. The rate of insurance is determined by the amount of the loss, and the more fires, the higher the rate.

Manufacturers and dealers pay for insurance, and the cost is added to the price of goods which the consumer pays, and the higher the insurance rates the more you have to pay for all the articles you purchase, including food. Therefore, a reduction of the fire loss means that every individual would directly benefit by a reduction in the cost of living.

One of the greatest problems which confronts the public today is that of the annual fire loss, and the fact stands out clearly above all others, that the inflammable roof constitutes the greatest single fire hazard, which has assumed gigantic proportion and is being added to daily, as reports come in from all sections of the country showing, "Entire Towns Destroyed by Fire, Flying Brand Set Fire to Thirty Houses," "Conflagration Wipes Out Residential Section." Truly the shingle roof route to destruction is being widely advertised.

A careful analysis of conflagrations shows four elements to be present; a spell of hot dry weather; high winds; a preliminary quick fire, and inflammable roofs. If one of these elements is removed the

conflagration cannot take place. The elements of weather cannot be controlled. The quick, hot fire can be controlled by general unburnable construction which will not become a reality until the many fire traps, which cover the country, rot, or are burnt, but the roofing element can be changed and should be so that it will no longer combine in general reaction and make conflagrations impossible.

The inability of any section, where shingle roofs are prevalent, to resist the onslaught of a conflagration is pitiable. The fire blazes hotly and the burning embers are caused by the wind to start fires in different sections. The fire departments are rendered helpless, owing to having two or three fires to cope with at one time, and when from ten to twenty fires start at once there is no help.

Every year the volume of loss from improper and hazardous roofing conditions is increasing from ten to forty per cent., and as an example of the danger arising from the use of wood-shingles, and an argument in favor of non-inflammable roofing, the story of the great fire at Salem, Massachusetts, can be quoted: "This fire started in a frame leather factory, roofed with wood shingles. The blazing shingles were carried to surrounding buildings by the high winds and started a general conflagration. Witnesses saw shingle roofs burst into flames long before the fire reached them. House after house blazed as the rain of sparks fell on the roofs setting them on fire."

Shingle roofs are an invitation to fire. With their curved and jagged edges, pointing upwards, they offer lodgment to flying embers and, in the case at Salem, which cost that city several million dollars, recognizing the responsibility of shingle roofs for this loss, the city council passed an ordinance prohibiting the use of such roofs in the future. Many other instances could be mentioned where the same conditions have resulted from just such cause. The time has arrived to put the limited supply of timber to a much better use than sawing it into kindling wood size and arranging it in convenient form for burning on top of your homes. Will you continue to literally burn up your money, and complain about the high price of living, or will you help to banish forever the wood shingle and assist in obtaining in your community by law, or other means, regulations requiring that all roofs must be made of non-inflammable materials? Common sense should teach you that this is a move in the right direction, and you will profit by the reduction in the loss caused by the best invitation to fire in use today.

YOU SHOULD KNOW.

That the people are great when they unite for the common good and that there is nothing that will be more beneficial or more for the common good than uniting for the prevention of fire losses.

It will result in ease of mind and freedom from monitary and other loss. To acquire property and then not protect it is the height of folly. No one wants to be accused of folly. The fact that you carry insurance does not protect your property, it only is an agreement that you pay so much in premiums and should your property be destroyed the company will pay a certain amount, not necessarily the full amount insured for, that depending upon adjustment. Then if the full amount is paid, if it is your home that is destroyed, there are many things of value to you and your family that can never be replaced by the money received.

How much better it will be if you provide for the prevention of fire. Don't be behind the times. The question of fire prevention throughout the United States is one that is looked upon as being of dire importance. In every state where the movement has been started the results have been startling by bringing about a reduciton in the number of fires; reduction in fire rates and above all the reduction in loss of life.

The loss by fire is a loss to a community and tends to increase the branch of taxation directly to the property owner who insured and indirectly to the people at large, in the loss of taxes on property. Fire waste should call for every effort towards its elimination. It is not only destroying your property but that of your neighbor and places the lives of loved ones constantly in danger. Won't you do your share as an individual towards the reduction of fire waste in the community in which you live?

Take up the matter with your neighbor and organize a fire prevention association and have a fire prevention day. Get the teachers of your schools interested and let them teach the children what it means in the saving of life and property to prevent fires. Instruct them in fire drills and fire prevention by pointing out the danger that is in the careless handling of matches; the building of bon fires; burning leaves or brush. Teach them that all fires are the same size at the start and that they must not play with fire of any kind. Get them interested in the subject and instil in their minds that the prevention is more important than the extinguishing of fires already started. Many children are required to kindle the morning fire and empty the ash pan. Instruct them never to put ashes in wooden boxes and if they throw them on the ground be sure not to do so near a building.

Get the young men and women together. Point out the advantages to them in fire prevention which may mean so much to them in the future. Instruct them in the danger of permitting the accumulation of rubbish in and around their homes. Point out the danger of friction matches. Advise the using of safety matches and don't even allow safety matches to lay around where children can get them.

Point out the danger of using coal oil for kindling fires. That lamps should never be filled near exposed lights. Do not let coal oil or other oily rags lay around near where fire can reach them; they may become heated and cause spontaneous combustion. Gasoline stoves, while convenient, are very dangerous when not properly used. No one should use these stoves without careful instruction and direction and tanks which stand above the stove should never be filled while the burner is lighted.

If coal oil or gasoline is spilled on the floor see that it is wiped up immediately. Never fill a tank quite full and see that the burners are shut before filling, the tank. Be careful not to let too much oil flow in the burners and be sure to close it when not using the stove. See that the gasoline can is kept outside, never in the kitchen. Gasoline must not be poured from one vessel to another in a room where there is a light. Be careful of open fire places and grates; there is danger of your clothing being set on fire and by coals rolling out of the grate and setting fire to the wooden floor.

Care should be taken in burning rubbish in the yards; sparks may carry a long distance and set fire to valuable property. This can be prevented by not making a bon fire too large and see that it is not too near inflammable property and be sure that it is completely extinguished before leaving it.

Do not permit stoves to become overheated. Never use exposed flames near window curtains or clothing hanging in clothes presses or carrying lighted candles where fire may communicate to furniture, bed clothing, etc.

In addition to preventing fires, give instructions in extinguishing fires when first started. In homes and business houses fire extinguishers should be within easy reach; a blanket or mattress will sometimes be very effective or convenient. Realize that it is up to you and to each of you in your community to reduce the fire waste which is to your own advantage and means a saving of many dollars annually. Help in the movement to reduce fire waste and remove all visible causes of fire on your property. Join together in the prosecution of those who may attempt to burn their property and injure yours.

A little effort on your part in the beginning will result to the advantage of yourself and your neighbor. Help one another in the prevention of fire and help the State towards a reduction in the fire

waste. Start a campaign of education in fire prevention; it will pay better than any investment you ever made. Fully fifty per cent. of the fire waste in this State is due to preventable causes. In the scramble for the almighty dollar, people have been careless and have forgotten that one dollar saved is as good as two dollars earned. Get together and save the dollar by the Prevention of Fires.

LOSSES BY FIRE IN APRIL, 1917, REPORTED TO THE STATE FIRE MARSHAL.

COUNTY.		COUNTY.	
Adams,	3	Lackawanna,	83
Allegheny,	98	Lancaster,	44
Armstrong,	8	Lawrence,	22
Beaver,	13	Lebanon,	1
Bedford,	6	Lehigh.	9
Berks,	44	Luzerne,	80
Blair,	42	Lycoming,	25
Bradford,	10	McKean,	16
Bucks,	3	Mercer,	31
Butler,	6	Mifflin,	7
Cambria,	19	Monroe,	5
Centre,	8	Montgomery,	24
Chester,	26	Montour,	1
Clarion,	2	Northampton,	12
Clearfield,	17	Northumberland,	16
Clinton,	6	Perry,	3
Columbia,	7	Pike,	1
Crawford,	8	Potter,	5
Cumberland,	42	Schuylkill,	41
Dauphin,	22	Snyder,	1
Delaware,	16	Sullivan,	1
Elk,	2	Somerset,	13
Erie,	43	Susquehanna,	5
Fayette,	18	Tioga,	7
Forest,	1	Union,	1
Franklin,	7	Venango,	13
Fulton,	2	Warren,	5
Greene,	2	Washington,	36
Huntingdon,	6	Wayne,	4
Indiana,	1	Westmoreland,	31
Jefferson,	8	York,	7
			1,046

PROPERTY BURNED IN APRIL, 1917.

COUNTY.		COUNTY.	
Dwellings,	612	Manufactories,	26
Barns,	90	Garages,	16
Stores,	90	Other structures,	184
Stores and dwellings,	22	Automobiles,	6
			1,046

MATERIAL OF CONSTRUCTION OF BUILDINGS BURNED IN APRIL, 1917.

Wood,	852	Brick and stone,	1
Wood and brick,	11	Concrete,	2
Wood and stone,	9	Stone,	7
Brick,	158	Other material,	16
			1,046

CAUSES OF FIRES IN APRIL, 1917.

Adjoining,	167	Lightning,	26
Backfire,	5	Matches,	81
Candle,	2	Moving picture machine,	2
Cigar and cigarette,	15	Oil Stove,	8
Children—matches,	11	Open fire,	6
Clothing and stove,	2	Open light,	24
Defective chimney,	103	Overheated furnace,	5
Electric wiring,	29	Overheated stove,	53
Explosion,	5	Rubbish,	25
Friction,	1	Smoking,	23
Furnace,	1	Sparks,	67
Gas explosion,	3	Sparks—chimney,	23
Gas jet,	18	Sparks—locomotive,	25
Gas leak,	10	Stove pipe,	7
Gas stove,	1	Steam pipe,	1
Gasoline explosion,	9	Spontaneous combustion,	4
Hot ashes,	10	Sparks—engine,	1
Hot grease,	6	Sparks—tug boat,	1
Hot metal,	3	Torch,	5
Incendiary,	16	Undetermined,	214
Lamp,	23	Vulcanizing,	2
Lantern,	1		
			1,046

BUILDINGS AND AUTOMOBILES DESTROYED OR DAMAGED BY FIRE IN APRIL, 1917.

Counties.	Fires reported.	Dwellings.	Barns.	Stores.	Stores and dwellings.	Manufactories.	Garages.	Other buildings.	Automobiles.
Adams,	3	2	1						
Allegheny,	98	69	2	11	2	1	1	12	
Armstrong,	8	6	2						
Beaver,	13	10		1				2	
Bedford,	6	4	1	1					
Berks,	44	19	4	4	5	3		9	
Blair,	42	38		2	1			1	
Bradford,	10	4	2	1				3	
Bucks,	3	2						1	
Butler,	6	4	1		1				
Cambria,	19	16		1		1		1	
Centre,	8	6						2	
Chester,	26	6	6	1	1	2	1	10	
Clarion,	2	2							
Clearfield,	17	9	2	1			1	4	
Clinton,	6	6							
Columbia,	7	3		1		1		2	
Crawford,	8	2		1	1	1		4	
Cumberland,	42	23		2		1	1	15	
Dauphin,	22	16	1	1		1		3	
Delaware,	16	12	2			1	1		
Elk,	2	1	1						
Erie,	43	23	7	2	1	2		8	
Fayette,	18	11	2	2				3	
Forest,	1	1							
Franklin,	7	3	1	1				2	
Fulton,	2	1		1					
Greene,	2	2							
Huntingdon,	6	2		1	1				
Indiana,	1					1			
Jefferson,	8	7		1					
Juniata,	1	1							
Lackawanna,	82	45	8	14	3			12	
Lancaster,	44	19	6	4		1		13	1
Lawrence,	22	14	3	2		2			1
Lebanon,	1							1	
Lehigh,	9	3		3				3	
Luzerne,	80	39	6	13	2	1	3	15	1
Lycoming,	25	8	6	1		1		9	
McKean,	16	12	1			2			1
Mercer,	31	21	1	2		1		6	
Mifflin,	7	2	2					3	
Monroe,	5	5							
Montgomery,	24	10	3	1		1	1	6	2
Montour,	1							1	
Northampton,	12	5	2		1	1		3	
Northumberland,	16	4	2	2				8	
Perry,	3	2						1	
Pike,	1							1	
Potter,	5	3	1	1					
Schuylkill,	41	31	1		2		3	3	
Snyder,	1		1						
Somerset,	13	7	2		1			3	
Sullivan,	1	1							
Susquehanna,	5	4						1	
Tioga,		6	1						
Union,		1							
Venango,			1				1	1	
Warren,			1	1				2	
Washington,		3	2	6			1	4	
Wayne,		2	2						
Westmoreland,		21	1	4			2	3	
York,		2	2			1		2	
Total,	1046	612	90	90	22	26	16	184	6

Conditions found on inspection at Norristown, Pa. Ordered repaired or demolished and material removed.

Conditions found on inspection at Norristown, Pa. Ordered repaired or demolished and material removed.

11

OPEN YOUR EYES. GET BUSY.

For years you've been asleep to your interests. Wake up and hustle for your own benefit. Do you realize that over one-half the fires that occur throughout the State are caused by carelessness? It's so. Look up the records, if you don't believe it and they will astonish you; that's the reason your insurance rates are so high. If the care of property was more thoroughly gone into and repairs made when needed and buildings not allowed to become dilapidated and ready to fall down, they would not become fire traps and a place for the accumulation of trash. Trash thrown around invites fires. Matches improperly used or left lying around, is another source from which innumerable fires are traced.

Oily rags put down for a moment, then forgotten, have caused thousands of dollars in fire loss. Hot ashes, burning brush or leaves, gasoline, or oils left exposed will take money out of your pocket about as quickly as it can be done and the money loss is not all. Think of the lives that have been sacrificed to carelessness. You can't replace life like property and no insurance you may obtain will make your mind easy, if your dear ones are taken from you through your own failing to protect them by keeping your property free from fire caused by rubbish.

Have you not said of some neighbor's place that it was littered with filth and forgotten to look around and clean up your own place. Go at once, look over your own home, clean out all trash. Go to your barn or other buildings, clean up and see that hereafter they are kept clean. Haul away and burn all that old rubbish and watch the fire while you are doing it and see that it is out before you leave.

If your neighbors ask what you are doing tell him cleaning up and to go and do the same. Tell him you are going to help reduce the fire rates by reducing the hazard of risks. Tell him you are tired of helping pay other people's loss and that the insurance companies are not paying the losses, but, that it comes out of the pockets of the insured. Tell him you are going to help put down the per capita loss, which is $3.00 in the United States against about 33 cents in Europe.

Tell him if the Old Country can reduce the cost of insurance by keeping things clean, you are going to do your part and ask him to do the same. Get the men and women together in your community and have them organize for fire prevention; advise them to look after the chimneys and see that they are clean before putting up stoves. See that ashes are not put in wooden boxes or barrels. See that the stores in your midst don't keep gasoline or coal oil inside the buildings. See that straw or hay or other inflammable material is not piled against buildings.

If you have not already a fire department organize one.

See that the water supply is in good condition and kept that way, ready for any emergency.

Get together and have a clean up day. All turn in and help to keep it up. Don't lay down because one or two may shirk their duty, but, keep at it all the time and remember every fire prevented is money in your pocket and the fewer fires, the less your insurance will cost.

Don't over insure; you are paying out money uselessly, for if you should have a fire the chances are ten to one you won't get the full amount of the face of your insurance policy, and if you use care you won't need probably one-half the amount you now carry, and that means a saving which is your right.

Clean up and prevent fire. It is interesting work and it pays and pays big. Get together, one for all and all for one for Fire Prevention and saving in fire waste.

A PAIL MAY SAVE A CITY.

"They also serve who only stand and wait."

We cannot all be heroes on the battlefield. Nor can we all wear gold braid and padded khaki.

Our service may not lie in paths of glory, but every true American can do his bit.

War is on. It is real; it is earnest; it is uncertain. The fact that the theatre of the great war has been viewed at long range from our shores should not blunt us to our new dangers.

A constant menace will be fire. Warfare is never dainty, and explosions and incendiarism may levy a heavy tax on American property.

To counterbalance the greater exposure of American property by reason of war, there should be greater vigilance and care by American citizens.

If the number of fires under normal conditions can be reduced by public co-operation, American fire insurance interests will be strengthened to meet the prospective losses arising from the direct or indirect consequences of war.

Here is a superb opportunity for the American householder to serve his country. The thrill of martial music and the huzzahs of cheering throngs may be lacking, but the civilian who in these pregnant moments, protects his home and community against fire is every inch a soldier.

Every fire is a potential conflagration, and a small flame starting accidentally in a modest home may eventually reach some hidden cache of explosives, secretly stored in nearly every community, and the casualties may be worse even than the carnage of battle.

Property owners and householders should arm themselves with proper fire fighting equipment. Every family should be specifically warned and instructed. Every organization now mustering for local defense should include explicit directions to the community to exercise the utmost caution at this time.

If grenades, acid extinguishers and other patented devices are too expensive, a handy pail of water may save a city.

The patriots now organizing in various communities, eager to serve Uncle Sam, can raise no stronger or simpler defense for their homes than a corps of individual fire fighters, alert and ready to check at the outset this ravaging foe.

Owners of large manufacturing properties should be sure of their watchmen. Every precaution should be taken to prevent fires by accident or design.

GASOLINE.

One gallon of gasoline vaporized has a tearing power equal to eighty-three pounds of dynamite.

Five gallons of gasoline will generate 8,000 feet of gas.

Gasoline is a petroleum product, more powerful than dynamite; as sure to explode under conditions as nitroglycerin; as deadly as cyanite of potassium and as innocent looking as water, but never fool proof or danger free.

Don't get careless when handling gasoline. Only recently a report was received of the loss of one life and the serious injury received by another when filling the tank of an automobile while the engine was running. Take heed and avoid such an occurrence by being sure to stop engine before refilling tank.

Attention to a word of warning may save life, home or business.

SOME WAR-TIME AND PEACE-TIME SUGGESTIONS.

Clean up.

Oily rags and waste should be placed in metal receptacles.

Never neglect to have flues cleaned, examined and repaired at least once a year.

Steam pipes and stove pipes should not pass through wooden partitions.

Electric wiring should be installed by an expert, and inspected regularly thereafter.

Rubbish should not be permitted to accumulate in basement, attic, or anywhere else about the premises.

Vigilant watch should be kept for unsafe and unsatisfactory conditions.

Abolish the swinging gas jet.

Trash should be removed without delay.

Inspect property at regular intervals.

Oils and gasoline should be handled with greatest care.

No smoking should be permitted about manufacturing plants, grain elevators, or farm property.

Monthly Bulletin

"MAKE PENNSYLVANIA FIREPROOF"

Department

OF THE

State Fire Marshal

OF

Pennsylvania

OFFICE—ROOM 166
Capitol Building, Harrisburg, Pa.
G. CHAL. PORT, State Fire Marshal

VOL. V OCTOBER 1917 NUMBER 19

P38.32
1.3

A WORD WITH YOU.

This Bulletin is published in the interest of Fire Prevention, and in an endeavor to arouse civic pride to the extent that the people of the State will co-operate in making Pennsylvania Fireproof. This may be accomplished by a reduction of the fire waste, which is as disgraceful as unnecessary, and can be eliminated by the earnest efforts of the citizens of communities getting together and removing fire hazards of all natures.

It is the desire to make the Bulletin so interesting that you will be glad to obtain it and we will be pleased to receive and publish articles pertaining to best methods of Fire Prevention and Fire Protection.

VOL. V No. 19

MONTHLY BULLETIN

Department

OF THE

State Fire Marshal

OF

Pennsylvania

G. CHAL. PORT, State Fire Marshal

Bulletin of Information for the Public

OCTOBER, 1917

HARRISBURG, PENNA.:
J. L. L. KUHN, PRINTER TO THE COMMONWEALTH
1917

FIRE PREVENTION DOES PAY.

Statistics clearly indicate that energy expended in the prevention of fires is such a paying proposition, worthy of especial interest and activity on the part of both officials and residents of all communities.

New York City in 1915 had 1,010 fewer fires than in 1914; and, in the aggregate, losses showed a decrease of $2,460,793 from the loss of 1914. Its per capita loss was 32 cents less than was known before. Its loss per fire was $140.58 less than the lowest previous record. The results generally are attributed to New York's fire prevention work.

Chicago has a Bureau of Fire Prevention and Public Safety with extensive activities. Translated into figures, it appears that Chicago in 1915 enjoyed a decrease of 1,238 in the number of fires and $906,605 in total fire losses as compared with 1914.

Boston's metropolitan district, including the city of Boston and 25 neighboring towns, has made a remarkable showing since the appointing of a Fire Prevention Commission in 1914. Comparative figures for the single month of June are as follows: In 1914, 1,337 alarms; in 1915, 935 alarms; in 1916, 605 alarms, or a decrease, in two years, of 64 per cent.

Cincinnati is interested in fire prevention. In 1914, the figures of 2,138 fires and $699,473 in losses were reduced to 1,708 fires and $365,570 in losses for 1915, a reduction of 20 per cent. in the first item and nearly 50 per cent. in the last.

Milwaukee now carries on fire prevention work under the direction of its fire department. In 1915, the city had only 1,679 fires as against 2,361 in 1914, a decrease of 29 per cent. Its total fire loss for 1915 was $487,009 as against $777,946 in 1914 and $953,477 in 1913. Milwaukee is convinced that fire prevention pays.

Portland, Oregon, shows $500,000 less in the total loss for 1915 than for 1914, and the number of fire alarms for 1915 was 193

as against 281 for the last six months of 1914. Portland did not begin fire prevention work in earnest until the beginning of 1915.

The above, however, are a few o fthe bright spots and represent but the merest beginning. It must not be overlooked that fire prevention is still confronted by an enormous task. Momentary enthusiasm because of a reduction in a few cities is somewhat dampened by the reflection that 1915 saw the enormous total of $39,591,227 in the single item of dwelling house fires in the United States, and these figures, enormous as they are, will probably be exceeded by the 1916 figures because of several disastrous conflagrations that have occurred during the year. Of the dwelling loss in 1915, $6,322,813, or $17,323 per day, is directly traceable to defective chimneys and flues, or a cause which could have been ascertained and corrected.

Fire prevention does prevent, but it will never be really successful until the public takes a hand, and there is good reason why. The public should at once become active. The fire loss in the United States for July 1917 shows an increase over the same month in 1916 of $1,550,775, and to August 1st, seven months, an increase over 1916 of $20,396,080. There is no argument that can be advanced why this enormous loss should not be reduced, as fire prevention simply means "Care and attention," not much to ask when the results are so abundantly profitable to those who use ordinary common sense in the protection of property and prevention of fires, as shown by the results obtained in the several cities quoted.

CO-OPERATION.

Co-operation is the combination of a number of persons to accomplish what could not be done singly and alone; persons combine their means or power for various purposes and in this way bear each others burdens. This is so when the home or other property is laid in ashes caused, possibly, by neglect in using proper precautions for prevention, and you call on the insurance companies and expect them to reimburse you for the loss; but in many instances only partial payment is made and you are still a loser, not in so far as the property loss is concerned, but no money can replace many precious articles destroyed and dear to you from association.

The standard of insurance is climbing and consequently rates are advancing caused principally by increasing loss from neglect or

carelessness, faulty buildings and many other causes, and the only means of bringing about a reduction in rates is by co-operating to obtain better and safer building construction, cleanliness and working for the prevention of fires.

Every insurance agent should assist in this work by constituting themselves inspectors and make a thorough inspection of every risk they write, or renew, and such inspection should include, beside general construction of the property, the chimneys and flues; stoves and stovepipes; roof; lighting system; lightning rods on barns; storage and use of gasoline in or about garages, or wherever automobiles may be stored; and a special note made of all dangerous conditions and a notice served on owners or tenants that defects or changes must be made within a fixed time subject to inspection before a policy would be issued. Reasonable men will appreciate their attention being called to defects in buildings, or where dangerous material is stored, endangering their property, and in most instances will willingly comply with request for remedying same, and when upon this compliance depends their obtaining insurance which is so essential, particularly in business, they will get busy and put their property in a safe condition. By the adoption of this method of issuing insurance better conditions will be effected, beneficial both to the individual and to a community. Co-operation in this will result in a reduction in losses by fire and a lowering of insurance rates which means dollars in the pockets of the insurer.

CO-OPERATE!

LOSSES BY FIRE IN MAY, 1917, REPORTED TO THE STATE FIRE MARSHAL.

Adams,	3	Lawrence,	8
Allegheny,	65	Lebanon,	3
Armstrong,	9	Lehigh,	15
Beaver,	11	Luzerne,	55
Bedford,	2	Lycoming,	18
Berks,	44	McKean,	16
Blair,	22	Mercer,	21
Bradford,	9	Monroe,	2
Bucks,	13	Montgomery,	27
Butler,	6	Northampton,	11
Cambria,	19	Northumberland,	9
Carbon,	9	Perry,	4
Centre,	6	Pike,	1
Chester,	20	Potter,	1
Clarion,	1	Schuylkill,	14
Clearfield,	16	Snyder,	1
Clinton,	5	Somerset,	8
Columbia,	5	Sullivan,	1
Crawford,	16	Susquehanna,	3
Cumberland,	14	Tioga,	13
Dauphin,	37	Union,	1
Delaware,	21	Venango,	17
Elk,	6	Warren,	6
Erie,	44	Washington,	28
Fayette,	21	Wayne,	1
Franklin,	7	Westmoreland,	36
Huntingdon,	10	Wyoming,	3
Indiana,	7	York,	12
Jefferson,	4		
Juniata,	2		
Lackawanna,	40		
Lancaster,	15	Total,	844

BUILDINGS AND AUTOMOBILES DESTROYED OR DAMAGED BY FIRE IN MAY, 1917.

Counties.	Fires reported.	Dwellings.	Barns.	Stores.	Stores and dwellings.	Manufactories.	Garages.	Other buildings.	Automobiles.
Adams,	3	1	1					1	
Allegheny,	65	51	1	5	3			4	1
Armstrong,	9	7	1	1					
Beaver,	11	10					1		
Bedford,	2	2							
Berks,	44	27	5		1	2		9	
Blair,	22	17		1				4	
Bradford,	9	6	3						
Bucks,	13	3	7					3	
Butler,	6	4	1					1	
Cambria,	19	12		4				3	

Somewhere in Pennsylvania. Does it apply to your town? If so get busy and remedy conditions in the interest of Fire Prevention.

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BUILDINGS AND AUTOMOBILES DESTROYED OR DAMAGED BY FIRE IN MAY, 1917—Continued.

Counties.	Fires reported.	Dwellings.	Barns.	Stores.	Stores and dwellings.	Manufactories.	Garages.	Other buildings.	Automobiles.
Carbon,	9	7	1					1	
Centre,	6	6							
Chester,	20	11	3		2			4	
Clarion,	1	1							
Clearfield,	16	10	1	3				2	
Clinton,	5	4		1					
Columbia,	5	3		1		1			
Crawford,	16	7	5					4	
Cumberland,	14	4	2	1	1			6	
Dauphin,	37	26		2		2		7	
Delaware,	21	15	2		1			3	
Elk,	6	2				2			2
Erie,	44	25	5		1	2	1	9	1
Fayette,	21	13	2			2	2	2	
Franklin,	7	2	2					3	
Huntingdon,	10	8		1					1
Indiana,	7	5		2					
Jefferson,	4	3	1						
Juniata,	2		1					1	
Lackawanna,	40	26	6	4				4	
Lancaster,	15	4	5			1		3	2
Lawrence,	8	6	2						
Lebanon,	3	1	2						
Lehigh,	15	4	4	4				3	
Luzerne,	55	41		4	1			9	
Lycoming,	18	11			1	1	2	3	
McKean,	16	11		4					1
Mercer,	21	15	3			1		2	
Monroe,	2	1						1	
Montgomery,	27	10	6	1	2	1		6	1
Northampton,	11	4		1	3			3	
Northumberland,	9	5		1		1		2	
Perry,	4	1	2					1	
Pike,	1	1							
Potter,	1	1							
Schuylkill,	14	5	2	1	1			5	
Snyder,	1	1							
Somerset,	8	5		1				2	
Sullivan,	1	1							
Susquehanna,	3	2				1			
Tioga,	13	10	1					1	1
Union,	1	1							
Venango,	17	13	1	1				2	
Warren,	6	5						1	
Washington,	28	23		1		1		3	
Wayne,	1	1							
Westmoreland,	36	23		7				6	
Wyoming,	3	3							
York,	12	8	1					3	
Total,	844	535	79	52	17	18	6	127	10

CAUSES OF FIRES IN MAY, 1917.

Adjoining,	95	Oil stove,	9
Backfire,	8	Open fire,	8
Bonfire—rubbish,	16	Open light,	22
Candle,	4	Overheated furnace,	4
Child—matches,	11	Overheated stove or pipe,	5
Cigar—cigarette,	14	Smoking,	13
Chimney,	86	Smoking meat,	4
Electric wiring,	16	Sparks,	20
Explosion,	3	Sparks, chimney,	56
Friction,	1	Sparks, furnace,	1
Gas explosion,	2	Sparks, forge,	1
Gas jet,	21	Sparks, locomotive,	21
Gas leak,	8	Spontaneous combustion,	2
Gas stove,	3	Stove or stovepipe,	31
Gasoline explosion,	2	Tinner's fire pot,	1
Hot ashes,	9	Torch,	2
Hot grease,	3	Traction engine,	5
Hot metal,	7	Unknown,	174
Incendiary,	14	Vulcanizing,	1
Lamps,	32		
Lightning,	45	Total,	884
Matches,	64		

MATERIAL OF CONSTRUCTION OF BUILDINGS BURNED IN MAY, 1917.

Wood,	668	Concrete,	2
Wood and brick,	7	Other material,	11
Brick,	134		
Brick and stone,	3	Total,	844
Stone,	19		

FIRE PREVENTION CAMPAIGN.

WORK AND PUBLICITY SHOULD GO HAND IN HAND. MANY OPPORTUNITIES FOR FURTHER EDUCATION OF THE PUBLIC.

Every official and citizen interested in the reduction of fire waste and, consequently in the success of fire prevention day, should obtain all the publicity possible for the fire prevention idea on or near October 9th. If a clean-up campaign is inaugurated it will be easier to concentrate all display publicity on the one idea of fire prevention. The practical work and the publicity should go hand in hand—real accomplishments with publicity and real publicity for a workable program.

Ask the merchants of your city or borough to emphasize fire prevention in newspaper ads and window displays. It should be especially easy to interest those merchants who are active members of the National Credit Men's Association, as they are constantly receiving educational matter on fire prevention in their organization bulletins. Hardware stores especially will find it easy to prepare fire prevention window displays, almost every business sells something of fire prevention value. Many merchants will use fire prevention information in their street car ads, if approached in the right way and become interested in the propaganda.

Every trade journal offers an opportunity. Officials and others will find teachers' journals, of certain types, ready to grant space for such information as can be utilized by the teacher; the farm journals are subject to the same rule. No limit can be set to the interest which can be aroused if the campaign is begun early and proper support enlisted, and now is the time to start. Pennsylvania has been derelict in its duty in failing to establish a fire prevention day and instead of being at the head must now of necessity follow, as many states started this movement last year and from reports profited in a reduction in fire waste by activity in the effort to remove hazards which caused such enormous fire loss throughout the State. This loss is preventable and a reduction can be accomplished by individual interest on the part of the citizens. Let each person assume a personal responsibility and set apart October 9th as Fire Prevention Day and observe the day by a general cleaning up and removal of all rubbish, waste and trash from premises. See that all heating apparatus and chimneys are carefully

gone over and placed in proper condition for winter use; see that all public and private institutions, hotels, asylums, factories, theatres and all other buildings be carefully inspected and necessary repairs or alterations be made that will further protect the property and the safety of occupants; see that local authorities give especial attention to adopting better building regulations, better fire protection by the installation of up-to-date apparatus, and that, in the interest of Fire Prevention, fire drills be held in all public and private schools and industrial establishments.

These are the times of conservation and everyone is rightfully expected to do his bit; and in what better way can you do it than by conserving life and property?

CLEAN UP YOUR TOWN.

A town looks like its citizens.

Is there anything wrong with your town?

Are the back lots filled with rubbish?

Are the basements full of trash?

Is there rubbish leading to exits that people would have to pass over?

If there are any of these conditions existing, then there is something the matter with your town.

If your tongue were coated, your back ached and you had chills, you would go to a doctor? You would go because you were sick.

Your town is sick. It gets clogged up like your system and is coming to the only doctor it can come to. It is coming to you.

People judge a town by its looks.

If there have been fires in your town from moss on the roof, from defective flues or from rubbish in the basement, it is too bad.

Property that could have been taxed, and thus helped to reduce your burden, is beyond the power of taxation.

Food that could have been eaten is destroyed.

Gold with all its alchemy can not substitute; it has purchasing power, not food value.

Clean up your town.

It will mean dollars and cents to you.

It may mean the saving of a life.

Your own home may be destroyed by the careless act of a neighbor.

His home is in the same danger as yours.

Sunlight, fresh air and cleanliness never cause spontaneous combustion; lack of ventilation and accumulation of filth and dirt will.

This is your town.

You live in it. It is what you make it.

Remove those unsightly and dangerous piles of rubbish.

Clean up and fix up.

This is your home town. *(Oregon Bulletin.)*

A Patriotic Duty of Every American is to PREVENT FIRE. America at war needs every ounce of her energy and resources. It is criminal to cause hazards; it is unpatriotic to neglect them. Here are some of the ways you can help:

1. Learn the factory rules and OBSERVE them.
2. If you discover a fire, give the alarm promptly. Do you know how to do this, Ask to be shown.
3. DON'T SMOKE where it is not permitted.
4. Never drop a lighted match, cigar or cigarette; be sure that it has no spark left before throwing it away.
5. Report suspicious strangers seen about the plant.
6. If you notice any unusual smoke, or any other accident, notify the proper person at once.
7. Carry your precautions into your own home; keep your house and premises free from rubbish and instruct others to do the same.
8. Where would YOUR job be if the plant wherein you are employed should burn?
9. HELP UNCLE SAM.
10. BE CAREFUL.

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G. CHAL. PORT, State Fire Marshal

VOL. V. NOVEMBER, 1917 No. 20

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CHRISTMAS TRAGEDY

Tragedy and comedy were mixed in the life of the old patrol wagon, much as they are in the lives of humans. One time there came a "hurry call" in the dead of winter to a remote section of Allison Hill. It was just after the Christmas holidays and the officers who made the trip left the warmth and cheer of the station, where a lunch of Christmas cake and other goodies had been spread, to respond to the "ambulance request." Their good humor went with them and they laughed and related Christmas experiences as the wagon crunched through the hard, frozen snow. But their laughter turned to tears when a heart-broken father carried from his home to the wagon the cotton-swathed form of a baby girl terribly burned by the candles that had set fire to her Christmas tree. And all the way to the hospital the policemen silently brushed away their tears as the patient talked to and soothed the little one, who two hours later was to breathe her last on a cot in the children's ward at the hospital. Ah, yes, the old patrol wagon could tell a tale or two, had it a real tongue. —(Author of story of "Old Patrol Wagon," Harrisburg Telegraph.)

VOL. V No. 20

MONTHLY BULLETIN

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G. CHAL. PORT, State Fire Marshal

Bulletin of Information for the Public

NOVEMBER, 1917

HARRISBURG, PENNA.:
J. L. L. KUHN, PRINTER TO THE COMMONWEALTH
1917

CHRISTMAS HOLIDAYS.

Good Cheer and Happiness Should Prevail.—Make it so by Precaution Against Disaster and Sadness.

Does not the love of your dead ones appeal to you, with sufficient force, to dictate that the joyous season of the Christmas Holidays, now approaching, shall be free from that usual anxiety regarding the safety of the children during this delightful period, when naught but happiness should pervail?

Heretofore full sway has been given to the children during this festive season, and many instances have been recorded where anguish has resulted through preventable accidents caused by permitting the careless use of inflammable material for decorative purposes and the free use of matches. Make this period of gladness absolutely free from the casualties that bring great sorrow, at the time, and recurring sorrow in the years to come, particularly on the approach of this, the great festival of joy.

Make this Christmas Holiday carefree and happy by adopting stringent precautions against the possibilities of casualties by fire. Make it so by caution and the avoidance of carelessness in handling Christmas tree decorations. Flimsy decorations should never be used; they have been the cause of sadness and numerous deaths.

Many entertainments will be given in homes, churches, schools, bazaars, and stores where crowds will assemble. See to it that no decorations other than those of a non-inflammable nature are used. Avoid, as you would a plague, the use of light inflammable decorations; they make easy and quick fires and under no circumstances allow decorations of any kind to be placed near gas jets.

Where possible, electricity only should be used for lighting trees or for decorative purposes, and the wiring should be done by a competent electrician.

If impossible to obtain electricity, and candles are used, under no circumstances permit the children to light or relight the candles. Frequently clothing is set afire. Avoid the possibility and always

extinguish the candles before beginning the removal and distribution of gifts. Better no light at all than to run the risk of having an innocent child losing it's life through neglect to observe this precaution which is one of safety. Remember also that there is danger of the tree being set on fire from the use of candles.

Do not use paper or coton for decorative purposes; you invite fire by doing so. Use metallic tinsel or asbestos material.

See that the tree is securely fastened to the floor, so that the children cannot pull it over.

Avoid mechanical toys that require alcohol, gasoline or other dangerous oil to operate them.

Do not allow the use of cotton beneath the tree for the purpose of giving the appearance of snow. If the appearance of snow is desired, use mineral wool-asbestos; it will not burn and gives a better effect than cotton.

Never permit matches to remain within reach of children. Keep them in metal boxes and far out of reach. Particularly at this time observe this precaution. Constantly be on the watch for anything that might cause fire. Strive by every means to do this, but be prepared at the same time for an emergency by having placed conveniently either fire extinguishers or buckets filled with water.

Caution visitors who smoke to avoid throwing lighted cigars, cigarette stubs or matches about in a careless manner.

Teach the children, and profit by the teaching yourself, the danger of fire. Have drills at home for the children; nothing appeals to them more than drilling, and when once they are instilled with the knowledge of how to protect themselves in the event of fire they will better be able to care for themselves in times of danger from other sources.

Christmas is, and by all rights should be, a time of joy and good cheer. Everybody looks forward to it year by year, and hearts should not be saddened on this day by the burning of homes or injury to loved one through carelessness.

Have merriment and plenty of it, and avoid mourning by sensible precaution.

Help make our State the banner State in freedom from distressing injuries or death.

CONSERVATION.

The response to the Proclamation issued by Governor Braumbaugh designating Tuesday, October 9th, as Fire Prevention Day was very gratifying to those actively engaged in the crusade for a reduction of the fire losses in Pennsylvania and in many of the cities and boroughs, through committees especially selected for that purpose, extensive programs were arranged in the effort to arouse civic pride in the minds of citizens for a betterment of conditions and for clean and healthy habitations and communities. The work should not be confined to one day, but every day should and must be a Fire Prevention Day if results worthy of exertions put forth are to be attained. The movement for prevention of fire should appeal to all persons irrespective of whether they be property owners or not, and particularly so at this time when it has, and is being shown daily by the National Government an absolute necessity in the conservation of resources. Every loss, no matter how trifling, carries with it an extra tax upon the individual whether owner or occupant of a property adding an extra burden which can be avoided by care and attention to what should be a pleasant duty, that of cleanliness and the removal and destruction of unsightly and useless materials which, through carelessness, is the cause of sixty-five (65) per cent of all the fire waste, and must be paid for from the pockets of the insured and owing to that neglect in conservation is adding another tax by increasing insurance rates, which will continue to increase just so long as the people continue by indifference in permitting unnecessary accumulation of trash, waste and rubbish to exist in and about their premises.

Fire Prevention Day was set apart as a clean-up day in which citizens were asked to lay aside their usual occupation and take stock of their own neglect and remedy conditions and while there may be many who neglected to observe the day as intended, those who did so and fulfilled the requested task of cleaning up their premises must feel grateful in the knowledge that they have removed an element of fire hazard and a preventable evil. If all would co-operate in this work, which is of Nation and State-wide benefit, it would not be long before the enormous sum spent for carelessness and neglect would be reduced to such an extent that more comfort

and pleasure could be enjoyed by those who today are looked upon as unfortunate, but who in fact invite the extra cost of living by failure to observe the common safe-guard, that of cleanliness and carefulness.

An example showing what can be accomplished was demonstrated by the City of Reading, which is alive to the interest of its citizens and formed a committee of Fire Prevention and Control for the purpose of removal of fire hazards and betterment of conditions. This committee consisted of the Chief and two members from each of the Volunteer Fire Companies, constituting the Department, ably assisted by City Officials, Chamber of Commerce, Manufacturers, Business Men, Insurance Agents, and, above all, by public spirited citizens who having the welfare of their city in view, and feeling the disgrace of the enormous and unnecessary fire loss, determined with a will that their city at least should take a front rank as a well-kept, clean city, free from preventable fires, and where people would be proud to reside.

The committee and others took upon themselves the task of removing causes and remedying conditions and were rewarded in the efforts, and the citizens by expressions of appreciation show their gratification for the efforts made in their behalf and it is expected that the continued activity of those who brought about the favorable change will have the assistance of all the citizens for continued betterment and for Fire Prevention. To arouse special interest the Committee formulated a program consisting of fire drills in schools and manufacturing establishments, which were so perfectly conducted as to elicit praise from State and City Officials invited to participate, and exhibited the degree of efficiency that can be attained by a determined effort to save life and property by a thorough training and attention to details. Participating in these fire drills were eight of the largest manufacturing establishments, all the schools, and at three of these schools unexpected drills were called with splendid results.

The first manufactory, having nine hundred and fifty (950) employees, was emptied in two minutes and fifteen seconds, and water turned on by its own Fire Department in one minute and forty-five seconds, and all streams in two minutes and fifteen seconds.

The second manufactory, having one hundred and forty-six (146) employees, was emptied in one minute and twenty seconds.

The Girls' High School, with seven hundred and eighty-seven (787) pupils was emptied in one minute and forty-eight seconds.

The third manufactory, with five hundred and forty-five (545) employees, was emptied in one minute and forty-five seconds.

The Boys' High School, with eight hundred (800) pupils, was emptied in one minute and forty seconds.

The fourth manufactory, with three hundred (300) employees, was emptied in one minute and forty-two seconds.

The fifth manufactory, with eleven hundred and fifty-six (1,156) employees, was emptied in three minutes and fifteen seconds.

The sixth manufactory, with seventeen hundred and thirty-two (1,732) employees, was emptied in five minutes and twenty-five seconds, and water turned on by its own fire department in one minute and thirty-seven seconds.

The Juvenile School, with three hundred and fifty-two (352) pupils between ages of six and seven years, was emptied in forty-eight seconds.

The seventh manufactory, with three hundred (300) employees, was emptied in forty seconds, water turned on by its own fire department, first stream fifteen seconds, second stream eighteen seconds.

The eighth manufactory, with two thousand (2,000) employees, made display of fire fighting force resulting in first stream being turned on in fourteen seconds, nine streams and four chemicals and two ladders in place, accomplished in two minutes and ten seconds.

This is the result of interest instilled in the minds of citizens by arousing their civic pride and showing to them the advantage of prevention. What has been done in Reading can be done elsewhere and it is sincerely hoped that these lessons taught in the effort for Fire Prevention will result in every city and borough in the State, beginning at once and continuing work for the reduction of fire losses by a constant vigilance and activity in the formation of committees for Fire Prevention and that on October 9, 1918, the results attained by the City of Reading will be equalled throughout the entire State. Start now and keep it up. It's for your benefit and means saving of life and property.

LOSSES BY FIRE IN JUNE, 1917, REPORTED TO THE STATE FIRE MARSHAL.

(Excluding Philadelphia and Pittsburgh.)

Counties.

Adams,	4	Lackawanna,	65
Allegheny,	81	Lancaster,	16
Armstrong,	10	Lawrence,	26
Beaver,	15	Lebanon,	8
Bedford,	5	Lehigh,	13
Berks,	29	Luzerne,	63
Blair,	21	Lycoming,	28
Bradford,	9	McKean,	12
Bucks,	2	Mercer,	23
Butler,	13	Mifflin,	2
Cambria,	29	Monroe,	1
Cameron,	3	Montgomery,	25
Carbon,	4	Montour,	1
Centre,	8	Northampton,	20
Chester,	15	Northumberland,	17
Clearfield,	15	Perry,	2
Clinton,	3	Potter,	8
Columbia,	6	Schuylkill,	10
Crawford,	30	Snyder,	2
Cumberland,	11	Somerset,	6
Dauphin,	29	Sullivan,	1
Delaware,	7	Susqeuhanna,	15
Elk,	4	Tioga,	7
Erie,	38	Union,	3
Fayette,	13	Venango,	6
Forest,	1	Warren,	21
Franklin	11	Washington,	18
Fulton,	2	Wayne,	10
Greene,	4	Westmoreland,	25
Huntingdon,	6	Wyoming,	1
Indiana	11	York,	21
Jefferson,	16		
Juniata	3		934

PROPERTY BURNED IN JUNE, 1917.

(Excluding Philadelphia and Pittsburgh.)

Dwellings,	573	Laundry,	1
Barns,	111	Marble Yard,	1
Stores,	72	Office Buildings,	3
Stores and Dwellings,	16	Oil Works,	1
Manufactories,	27	Planing Mills,	2
Garages,	15	Pig-pens,	1
Bakeries,	1	Printing Establishment,	1
Bridges,	1	Pool Rooms,	3
Children's Home,	1	School,	5
Churches,	13	Restaurant,	3
Coal Breaker,	1	Saloons,	3
Coal Tipple,	3	Shops,	11
Cars,	1	Sheds,	1
Club Houses,	3	Stables,	11
Chicken Houses,	1	Storage Houses,	5
Creameries,	1	Smoke Houses,	3
Barber Shops,	2	Summer House,	1
Butcher Shops,	1	Theatre,	2
Flour Mill,	1	Water Tower,	1
Foundries,	4	Warehouses,	3
City Hall,	1	Automobiles,	16
Hotels,	5		
Hospitals,	1		934
Oil Supply Store,	1		

MATERIAL OF CONSTRUCTION OF BUILDINGS BURNED IN JUNE, 1917.

(Excluding Philadelphia and Pittsburgh.)

Wood,	741	Concrete,	2
Wood and brick,	7	Stone,	3
Wood and stone,	3	Other material,	18
Brick,	158		
Brick and stone,	2		934

CAUSES OF FIRE JUNE, 1917.

(Excluding Philadelphia and Pittsburgh.)

Adjoining,	69	Oil stove,	2
Backfire,	13	Open light,	16
Bonfire—rubbish,	3	Open fire,	2
Children—matches,	6	Overheated furnace,	3
Cigar—cigarettes,	7	Smoking,	21
Defective flue,	38	Smoking meats,	1
Candles,	2	Sparks,	4
Electric wiring,	23	Sparks—chimney,	36
Electric iron,	4	Sparks—locomotive,	4
Friction,	1	Sparks—stack,	1
Gas jet,	19	Stove—stovepipe,	30
Gas leak,	2	Spontaneous combustion,	6
Gas stove,	2	Suspicious,	3
Gasoline explosion,	6	Torches,	1
Hot ashes,	4	Cupola,	2
Hot grease,	5	Oil—hot pipes,	2
Hot metal,	4	Vulcanizing,	4
Incendiary,	4	Fireworks,	3
Lamps,	14	Undetermined,	124
Lightning,	398		
Matches,	45		934

BUILDINGS AND AUTOMOBILES DESTROYED BY FIRE OR DAMAGED BY FIRE IN JUNE, 1917.

(Excluding Philadelphia and Pittsburgh.)

Counties.	Fires reported.	Dwellings.	Barns.	Stores	Stores and dwellings.	Manufactories.	Garages.	Other buildings.	Automobiles.
Adams,	4	2	2						
Allegheny,	81	60	2	9	1	1		8	
Armstrong,	10	8						1	1
Beaver,	15	10		1				4	
Bedford,	5	4	1						
Berks,	29	13	4	2		4		4	2
Blair,	21	16		2				3	
Bradford,	9	6	1	1	1				
Bucks,	2	2							
Butler,	13	5	4	4					
Cambria,	29	26			1			2	
Cameron,	3	3							
Carbon,	4	4							
Centre,	8	2		1		2	1	1	1
Chester,	15	7	3	2		1		2	
Clearfield,	15	7	1	1		1	1	4	
Clinton,	3	2			1				
Columbia,	6	2	2					1	1
Crawford,	30	17	12	1					
Cumberland,	11	6	3					1	1
Dauphin,	29	15	3	4	1	2		3	1
Delaware,	7	4		1		2			
Elk,	4	4							
Erie,	38	24	3			1	3	7	
Fayette,	13	8	1	1	1			2	
Forest,	1						1		
Franklin,	11	9	1					1	
Fulton,	2		1					1	
Greene,	4	4							
Huntingdon,	6	2	3				1		
Indiana,	11	7	2	1				1	
Jefferson,	16	11	3	1					1
Juniata,	3		3						
Lackawanna,	65	40	3	7	2		2	9	2
Lancaster,	16	5	6				1	3	1
Lawrence,	26	18	5	2	1				
Lebanon,	8	3	2					3	
Lehigh,	13	7	2	1				3	
Luzerne,	63	48	1	7	1	4		1	1
Lycoming,	28	13	3	5			1	6	
McKean,	12	7	1	1	2	1			
Mercer,	23	14	2	7					
Mifflin,	2	1			1				
Monroe,	1		1						
Montgomery,	25	15	4			2		4	
Montour,	1							1	
Northampton,	20	16	1				1	2	
Northumberland,	17	8		2	2		1	4	
Perry,	2	2							
Potter,	8	3		1				3	1
Schuylkill,	10	6	1					3	
Snyder,	2	1	1						
Somerset,	6	2	3					1	
Sullivan,	1		1						
Susquehanna,	15	7	6	2					
Tioga,	7	4	1						2
Union,	3	3							
Venango,	6	6							
Warren,	21	10	4			3		4	
Washington,	18	11		2	1			3	1
Wayne,	10	5	4			1			
Westmoreland,	25	20	1	2		1		1	
Wyoming,	1	1							
York,	21	7	3			1	2	8	
Totals,	934	573	111	71	16	27	15	105	16

THE ALLY OF AMERICA'S ENEMIES.

The enemies of America have a powerful ally working within the boundaries of the United States. Its operations are very effective. It enters munition plants and causes explosions. It cripples hundreds of factories which are laboring to produce war-time necessities. It waits until the grain in the fields is ripe for harvest, and then destroys it over thousands of acres, or else it bides its time until the harvested crops have been stored in elevators, and obliterates them by the hundreds of thousands of bushels. It operates in every city and town, and in the country districts. It is unceasing in its activities, working by night as well as by day, and for every hour of the twenty-four. It enters countless homes, bringing devastation and sorrow; and last, but not least, it causes heavy loss of life.

This foe is not an "alien enemy," but comes of good American stock. It is encouraged by millions of people who believe themselves to be patriotic. Without their help, it would soon be overcome; for the name of this great enemy is Preventable Fire, and its principal cause is American carelessness.

Putting their average cost at $7,500 apiece, America in a year burns up the value of 30,000 airplanes, and 30,000 airplanes would win the war; or, to put it in another way, the nation's fire bill, if it could be applied to their construction, would supply our navy with one hundred and fifty destroyers, and such an added force would end the menace of the submarines.

The two billion dollar Liberty Loan carries an annual interest charge of $70,000,000, but the United States burns up each year enough property to pay interest upon more than three Liberty Loans.

In destitution in the bereaved homes of France are multitudes of the children of those who have given their lives upon the battle field. Appeals have been made to American benevolence upon the basis of ten cents per day per child to provide for their immediate necessities. Six million such little ones, or far more than the total number in need, could be supported for the cost of our senseless destruction.

Vacant dilapidated buildings somewhere in Pennsylvania. Are they in your City? If so, *arouse civic pride.* Have them removed in the interest of Fire Prevention and betterment of conditions.

Unsightly and dangerous fire hazards permitted to exist somewhere in Pennsylvania. Does this apply to your City? If so, have removed and demand cleanliness and safety.

Vacant dilapidated buildings somewhere in Pennsylvania. Are they in your City? If so, *arouse civic pride.* Have them removed in the interest of Fire Prevention and betterment of conditions.

Unsightly and dangerous fire hazards permitted to exist somewhere in Pennsylvania. Does this apply to your City? If so, have removed and demand cleanliness and safety.

An investment of $60,000 will equip a base hospital, capable of caring for 500 sick or wounded; if American people would change their habits to those of carefulness, 3,600 such hospitals might be supplied by means of the money thus saved from fire destruction. This would approximate one to each half-mile on all European battle fronts.

From whatever standpoint it is examined, therefore, it must be realized that every preventable fire, little or big, is to some degree "an aid and comfort to the enemy." This is a matter of individual responsibility. Each one must take it to himself as a personal matter. There are fifteen hundred fires each day, or more than one per minute. What right has anyone to assume that all of these will occur upon the premises of "other people?" Unless he resolve this day that there shall be no such occurrence in property controlled by him, and unless he makes this resolve effective by means of an immediate inspection and correction of all fire hazards, he cannot be considered a true patriot no matter what may be his profession.—Extracts. Bulletin National Fire Underwriters.

SOME PLAIN TALK.

If we fight as a collection of units, we shall be beaten; if we fight unitedly, as America, we shall win. Some of the fighting will be done in the European trenches; much more of it will be accomplished in the factories, warehouses, fields and homes of our forty-eight States. If we are to stand any chance of winning quickly, efficiency must be developed to the highest possible point—and efficiency means conservation as well as production.

It is shocking to note that America prepared herself for entry into the greatest struggle in human history by increasing her per capita fire loss from $1.71 in 1915 to $2.10 in 1916. The $214,000,000 thus wasted last year in fires which were largely preventable—therefore inexcusable—would have built nearly thirty thousand aeroplanes, or many hundreds of torpedo boat destroyers.

What is America going to do about her per capita fire loss for 1917? More especially, what are YOU going to do? Is there to be a preventable fire in property under your control before the end of the year? You do not expect it, of course, but are you taking any steps to render it impossible? Your factory, warehouse or other institution, great or small, is a part of the nation's assets. If it be destroyed at a time when the nation needs every ounce of her vitality, her ability to win the war will be lessened to a proportionate degree.

Are YOU entitled to call yourself a true patriot if you are indifferent to this fact?—(Bulletin Council of National Defense.)

LET EVERY DAY BE FREE FROM CARELESSNESS.

Two-thirds of the fire waste of the country is caused by careless ness, neglect and indifference. This can and should be overcome by good order, cleanliness and attention to conditions. This is the first step toward effective reduction of fire waste. Heavy losses increase cost of insurance. An inspection of your premises daily, and remedying conditions will assist in obtaining lower insurance rates.

All persons should be interested and aid in a reduction of fires, as it means saving of life, property and dollars.

SUGGESTIONS.

MR. FARMER:—You have gathered the results of the season's labors and expect to profit thereby. Have you given thought to its protection by preventing fire from destroying it? Do so. Clean up. Use the same precaution to prevent a fire as you would if you expected one.

DON'T go to barns or other buildings with an open light.

DON'T keep gasoline engines, or gasoline in barns, put them in separate buildings made of galvanized iron, brick or stone.

DON'T fail to burn rubbish. Don't do it near buildings. Watch it while burning.

KEEP at least six (6) buckets of water in passageway of barn. Mark them "For fire purposes only," and see that they are kept filled.

KEEP ladder of sufficient length on side of barn for emergencies, and have foot holds placed on roof of barn.

BUILD a cistern near barn with a good pump and hose attached.

DON'T neglect to put lightning rods on your building; they prevent fire.

ASSIST in the prevention of fires and loss of life.

MR. MANUFACTURER AND MILL OWNER:—It is your duty to safeguard your property against loss by fire, and particularly, it is necessary at this time when resources must be conserved. This applies to all productions, especially that of food, and every safeguard should be applied to prevent fire destroying that which is, and will be greatly needed to supply the requirements of our people at home and those gone forth to uphold and protect the interest of all our people.

INSPECT your premises. Correct all defects, take the utmost precaution and make preparation to protect your property by the prevention of fires.

MR. MERCHANT:—Do you know that you are, in part, responsible for the higher rates of insurance premiums? They are based on construction of buildings; occupancy; lighting; area; police system; fire department; watchmen; pavements; width and condition of streets and general condition of surroundings. Clean up your premises, and keep clean. Remove all waste and destroy it under proper supervision. No one can honestly foretell a loss by fire. It comes when least expected and when least prepared.

DON'T be in the unprepared class. Make Fire Prevention a part of your business. It will pay a good profit and save loss of trade, which becomes scattered as the inevitable result of fire loss.

MR. EMPLOYEE:—A fire in the establsihment where you work may mean its destruction and cause you and others to lose their positions and income derived therefrom. You certainly don't want such a calamity to happen and should interest yourselves in seeing that it does not, by means of prevention.

DON'T permit waste or other fire breeding material to accumulate in or about where you are working. Talk to your fellow-workers, point out the danger and loss from fire and induce them to use care and precaution to prevent fire. Don't do this for a limited period only, but be constantly on the watch for any defects or conditions that might cause fire and see that they are removed.

Form a Fire Prevention Committee and assign certain ones to see that every day is a Fire Prevention Day, and that no accumulations are permitted that would cause fire, throw you out of work and which may cause distress to your family and possibly death to fellow-workers.

HOUSEKEEPERS should stop a while from pleasure and clean up their homes and aid in the prevention of fires.

STOP piling rubbish, trash or waste in cellars, backyards or streets.

STOP using other than safety matches.

STOP putting ashes in wooden boxes; use metal cans.

STOP filling oil or gasoline stoves or lamps when lighted.

STOP hanging clothing or draperies near open fires or stoves, stovepipes or steampipes.

STOP starting fires in furnaces or stoves without seeing that they are properly put up, and see that chimneys and flues are clean.

AID us in the prevention of fires and loss of life.

Monthly Bulletin

"MAKE PENNSYLVANIA FIREPROOF"

Department

OF THE

State Fire Marshal

OF

Pennsylvania

OFFICE—ROOM 166
Capitol Building, Harrisburg, Pa.
G. CHAL. PORT, State Fire Marshal

VOL. V DECEMBER 1917 NUMBER 21

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CO-OPERATION—OR CALAMITY.

Every person can aid and prevent calamity by preventing fire caused by thoughtlessness and carelessness which, if permitted to continue, resolves itself into criminal negligence and calamity; avoid this condition. Co-operate with those in authority and the public spirited citizens who are giving their service free in the fight for a reduction of the disgraceful fire waste which is absolutely unnecessary and only permitted to exist by the failure to recognize self interest, which should be considered, if not for personal benefit, then for community interest and as an example to the public in general.

VOL. V. No. 21

Monthly Bulletin

Department

OF THE

State Fire Marshal

OF

Pennsylvania

G. CHAL. PORT, State Fire Marshal

BULLETIN OF INFORMATION FOR THE PUBLIC

DECEMBER, 1917

HARRISBURG, PENNA.:
J. L. L. KUHN, PRINTER TO THE COMMONWEALTH
1917.

FIRE PREVENTION CONSECRATED BY WAR.

You can't continue to eat if you continue to burn up the food!

Therefore, if you want to eat—and to continue to eat—prevent the fires that are destroying vast stores of the country's food products every day.

These are the salient thoughts of a letter recently sent out by J. L. Cunningham of the Glens Falls Insurance Company to its agents and the insurance fraternity. Mr. Cunningham emphasized the fact that the duty to serve cannot be delegated. "U. S. stands for the United States," he said, "but it spells US, and with a very distinctive spelling when 'A State of War' arrives."

WHEREFORE—

Use your war-stimulated earnestness and quickened sense of duty for serving your country in a consecrated effort for prevention of loss by fire * * * make incendiarism as odious as reason and careless indifference to fire prevention requirements as nothing less than criminal.

Mr. Cunningham's letter is a clarion call to individual service—personal assumption of personal responsibility for fire waste, howsoever caused and whatsoever it affects but with particular reference to the prevention of food wastage by fire.

His call is to the agents of his company first, to the fire insurance fraternity second; but it applies with equal force to every man and woman—even every child—that handles or in the remotest degree is responsible for created values, whether created by man's handiwork or produced as the result of his labor.

What are YOU going to do about it?

The letter follows:

"In the stress which confronts our country we have also the recognized importance of the individual, the quantity and quality of the personal obligation of every citizen, which in less strenuous times is overlooked or ignored. It is not a time when personal responsibility may be left to parties, societies, officials, aggregations, etc., which in "piping times" of peace and prosperity is too much our habit. Each must now follow the flag for himself—we cannot avoid or delegate our duty. U. S. stands for the United States, but it spells US, and with a very distinctive spelling when "A State of War" arrives.

It is a favorable feature of the war test, this renaissance of the individual. Boys at once become man-size; the careless and indifferent become sober minded; the sober-minded become serious, and the serious become intense. The man-unit reaches its best and thus the whole people become like a tuned piano with every wire at tone tension. Insurance men are sure to respond to the preparedness requirements of the situation, and they know as well as any what is needed to insure the safety and honor of the country. All will not be called to the colors, but all will be called to share in the duties and burdens of the times.

Never before in the war experience of this country has there been such anxiety for our food supply, and never before has there been so much reason for this solicitude. There is abundant evidence that we are going to be hungry! In fact, this question of food supply is the great feature of the awful European war and it will have an important if not decisive influence upon the outcome. Throughout our country the danger is being understood and the demand has gone forth for the fullest product which the land can be made to yield. There must be no idle lots or acres or tillers of the soil—for food supply takes prominence over munitions.

Equally important with food production is its conservation, the saving for actual use. Scores of food-laden vessels have been sunk at sea by the vicissitudes of war and enormous quantities have been lost by fires on land from vicissitudes that you know all about. We may not diminish continued loss by war, but there can and must be salvage from the loss by fire. What avails it if thousands of acres are sown and harvested if the product be destroyed in such elevator fires as have recently occurred, one of them involving a million bushels of grain? Not only grain in elevators, but grain and flour in mills and warehouses; meats in cold storage and packing houses; food in wholesale and retail groceries, canning and provision establishments —in fact, few fires occur without the loss of foodstuffs now so potentially precious. That there was insurance cuts no figure for you cannot eat money.

In behalf of our mutual business and the higher motive of patriotism, it occurs to us to suggest that you use your war-stimulated earnestness and quickened sense of duty for serving your country in a consecrated effort for the prevention of loss by fire in your business territory and plan a campaign which will make incendiarism as odious as treason and careless indifference to fire-prevention requirements as nothing less than criminal!

You have the ability, the knowledge and the experience; you have the confidence of your clients and acquaintances, and you have behind you the critical need of your country in conserving the supply of food. You know where fire dangers exist and what improvements are need-

ed. This is no small matter at any time, but is much emphasized just now and is worthy of your determined undertaking according to plans which are best calculated to bring results in your respective localities. Enlist the interest of your competitors, your fire department, your good citizens, your local press, and arouse your community to the prodigal wastage of fire, which can easily be lessened. We are sure that if the insurance men of this country were conscious of how much they could do in this behalf and made that consciousness active along lines in which they are well informed, our shameful annual ash-heap would diminish, rates of insurance would decrease, a patriotic service would be rendered and an important contribution to the food supply of the future would be made."

There is no gainsaying the importance and timeliness of this plea. The country is not yet awake to the fact that we are at war. The sound of the guns is afar off and it is on the other side of the world that men are dying. Yet millions in value—including millions of value in food—and hundreds of lives have been destroyed here at home in the carrying out of a warfare as real as that raging from the English channel to the Swiss frontier and as bitter as that which has filled the gloomy chambers of stormy seas with uncounted dead.

And all because there has been, in this country, no adequate system of prevention, no well-planned method of protection, no general adoption of sound principles for the accomplishment of fire extinguishment.

Individual responsibility is a burden on all of us; but it bears with compelling force on those whose properties are destroyed, and particularly those elevator, grain mill and food warhouse men who are trustees for the people in handling the food which, if we would live, we must have.

It is up to them to remove every hazard that is removable from their business; and Mr. Cunningham's call to insurance men is to those best fitted to aid and guide these trustees in thus safe-guarding the food supply.

It is up to them to provide every possible means, method and facility for protection against both external and internal hazards; and here again the insurance men of the country can perform invaluable service.

And, above all, if works and devices and systems and methods of prevention fail, there is the last trench defense of fire extinguishment. From the very nature of the problem—food conservation—it is necessary that this be accomplished with the least possible loss or damage, which pre-supposes immediate detection of fire at the point of origin, immediate alarm to outside fire-fighters that fire exists, and immediate setting to work to extinguish it. This means that these functions must be automatically performed, to be of highest service.

Fire prevention, therefore, for the removal of causes; fire protection, for the safeguarding of properties and processes, and sprinkler equipment to meet the exigencies of the situation if—despite all precautions—fire develops—these are the elements of the personal responsibility that must be shouldered by the food handlers of the country.

What are YOU going to do about it?

LOSSES BY FIRE IN JULY, 1917, REPORTED TO THE STATE FIRE MARSHAL.

COUNTY.		COUNTY.	
Adams,	1	Lancaster,	6
Allegheny,	70	Lawrence,	9
Armstrong,	18	Lebanon,	8
Beaver,	17	Lehigh,	5
Bedford,	7	Luzerne,	66
Berks,	31	Lycoming,	29
Blair.	49	McKean,	8
Bradford,	10	Mercer,	24
Bucks,	14	Mifflin,	1
Butler,	19	Monroe,	5
Cambria,	33	Montgomery,	15
Carbon,	9	Montour,	2
Centre,	7	Northampton,	34
Chester	14	Northumberland,	17
Clarion,	5	Pike,	2
Clearfield	13	Potter,	9
Clinton,	6	Schuylkill,	11
Columbia	8	Snyder,	3
Crawford	17	Somerset,	1
Cumberland	6	Sullivan,	3
Dauphin,	22	Susquehanna,	5
Delaware,	17	Tioga,	3
Elk	5	Venango,	26
Erie,	52	Warren,	13
Fayette,	11	Washington,	11
Franklin,	15	Wayne,	3
Greene,	1	Westmoreland,	39
Huntingdon,	3	Wyoming,	2
Indiana,	10	York,	15
Jefferson,	5		
Lackawanna,	86	Total,	956

MATERIAL OF CONSTRUCTION OF BUILDINGS BURNED IN JULY, 1917.

Wood,	769	Concrete	2
Wood and Brick,	4	Other material	13
Brick,	157		956
Stone,	4		
Stone and Wood,	7		

CAUSES OF FIRES IN JULY, 1917.

Adjoining,	78	Lantern,	1
Backfire,	9	Lightning,	355
Boiling paint,	1	Matches,	52
Boiling tar,	1	Moving pictures,	1
Bonfire-rubbish,	13	Oil Stove,	14
Candle,	3	Open fire,	4
Child-matches,	14	Open light,	32
Cigar-cigarettes,	10	Overheated dry kiln,	1
Chimney-flues,	30	Overheated stove, stovepipe,	22
Clothing-stoves,	6	Smoking,	19
Electric wiring,	21	Sparks,	3
Explosion, nitro-glycerin,	2	Sparks-chimney,	26
Fireworks,	45	Sparks-forge,	1
Friction,	1	Sparks-locomotive,	1
Gas explosion,	7	Sparks-stacks,	5
Gas jet,	16	Spontaneous combustion,	7
Gas stove,	7	Stove-stovepipe,	3
Gas leak,	3	Suspicious,	4
Gasoline explosion,	4	Torch,	2
Hot ashes,	1	Undetermined,	105
Hot grease,	4	Vulcanizing,	1
Hot metal,	6		
Incendiary,	5		956
Lamps,	20		

BUILDINGS AND AUTOMOBILES DESTROYED OR DAMAGED BY FIRE IN JULY, 1917.

Counties	Fires reported	Dwellings	Barns	Stores	Stores and dwellings	Manufactories	Garages	Other buildings	Automobiles
Adams,	1		1						
Allegheny,	70	45	3	11	3	1		6	1
Armstrong,	18	13	1	2				2	
Beaver,	17	8	1	3	1	1		3	
Bedford,	7	6	1						
Berks,	31	13	3	1	1	2	1	9	1
Blair,	49	41		1				7	
Bradford,	10	3	6					1	
Bucks,	14	10	3					1	
Butler,	19	13	4			1		1	
Cambria,	33	23		5	3			2	
Carbon,	9	6			1			2	
Centre,	7	4		1				2	
Chester,	14	6	2	3				3	
Clarion,	5	3	1	1					
Clearfield,	13	9	1	1			1	1	
Clinton,	6	2		3				1	
Columbia,	8	7	1						
Crawford,	17	9	7					1	
Cumberland,	6	2	2				1	1	
Dauphin,	22	16		1				5	
Delaware,	17	14				2			1
Elk,	5	4							1
Erie,	52	27	8			4	1	12	
Fayette,	11	8						2	1
Franklin,	15	8	1					4	2
Greene,	1	1							
Huntingdon,	3	1	1					1	
Indiana,	10	8						2	
Jefferson,	5	4						1	
Lackawanna,	86	59	2	9	3		6	7	
Lancaster,	6	3		1	1			1	
Lawrence,	9	7		1				1	
Lebanon,	8	3	3					2	
Lehigh,	5	2	1					2	
Luzerne,	66	49	3	3	5			6	
Lycoming,	29	19	3	2		2	1	2	
McKean,	8	7		1					
Mercer,	24	17	2	4				1	
Mifflin,	1	1							
Monroe,	5	3		1	1				
Montgomery,	15	9				1		5	
Montour,	2	2							
Northampton,	34	22	3	2	2			5	
Northumberland,	17	12	2				1	1	1
Pike,	2	2							
Potter,	9	5	4						
Schuylkill,	11	7	1	1				1	1
Snyder,	3	1	2						
Somerset,	1	1							
Sullivan,	3	3							
Susquehanna,	5	4						1	
Tioga,	3	3							
Venango,	26	20	3	2				1	
Warren,	13	12						1	
Washington,	11	6	2	1				1	1
Wayne,	3	3							
Westmoreland,	39	33	1	2				3	
Wyoming,	2		1					1	
York,	15	8	2		1			4	
Total,	956	637	85	60	22	14	12	116	10

Unsightly and dangerous fire hazards permitted to exist most anywhere in Pennsylvania. Does it apply to your community? If so, have conditions remedied. Insist upon cleanliness in the interest of Fire Prevention.

Unsightly and dangerous fire hazards permitted to exist most anywhere in Pennsylvania. Does it apply to your community? If so, have conditions remedied. Insist upon cleanliness in the interest of Fire Prevention.

WOMAN'S PART IN FIRE PREVENTION BEGINS AT HOME

An earnest appeal is being made to women in Pennsylvania to help in the fight against fire. The fire waste in this State involves not only a great loss of property, but of lives also. Some women may feel that it is strange that this appeal should be made to them, but they are more deeply interested than any other class, and they can accomplish as much, if not more, in stopping this loss of life and property. It is an encouragement to make this appeal, as a woman is not liable to fail to heed calls of this kind, especially when the appeal is so strong and urgent. It affects her home and her children and their safety.

To give you an idea of this toll, remember that every great city in the old world from Carthage up to the present day, has on one or more occasions been destroyed by fire, and practically every large city in America has had its destructive fire. The annual fire loss in the United States and Canada approximates $250,000,000. And in our own State this destruction, not counting the loss of life, amounts to approximately twenty-five million dollars per year.

THE REASON.

It naturally occurs to a woman to ask: "Well, what have we got to do with those things?" The loss of life and property strikes our women perhaps harder than any other class. They can unite with others in stopping this waste. The annual loss of property in Pennsylvania by fire and the expenses necessary to keep it down as much as possible amounts to thousands of dollars annually, sixty per cent. of the loss is preventable and caused by reason of neglect and carelessness. The largest number of fires occur in homes, the woman being generally considered the sole master of everything in her residence. Certainly she can do more in correcting the things that are wrong in and around the home than anyone else; and she can do more than looking after her own home by teaching children to avoid everything that will cause fire and carrying this educational work into the public schools, giving the pupils an advantage over the grown-ups who did not have the danger pointed out to them during their school days. These children will take this knowledge home, and parents who perhaps never have given the subject thought will awake to the dangers that have surrounded them for years and profit by the teachings of the children. Thus in Fire Prevention, as in many other causes the children will lead—by knowledge in protecting homes and parents from thoughtless indifference and neglect in protection and prevention.

"HOW TO DO IT."

M—ake it a duty to inspect your premises regularly. Remove and destroy useless material that might cause fire.

A—sh your neighbor to help you reduce insurance rates by improving conditions, and the prevention of fire.

K—eep constantly in view the possibility of fire and use precaution to avoid one.

E—arnestly labor for improved building regulations and the use of fire resistive material in the erection of new buildings.

P—ut no trust in the fact that you never suffered a loss by fire, as a reason for being unprepared.

E—xpend a few dollars for extinguishers and place them handy for instant use.

N—ever discourage a neighbor who is wise enough to protect his property, go and do likewise.

N—ow is the opportune time to encourage carefulness in the handling of inflammable liquids—they are not fool proof.

S—top fire losses—they add to the high cost of living.

Y—ou are responsible for damage to a neighbor's property, if by your carelessness it is destroyed by fire.

L—ook after defective chimneys, flues, heaters, stoves and stove pipes; have defects remedied, they are the cause of many disastrous fires.

V—ery many persons do not recognize the danger of carelessly handling gasoline. It is dangerous and should be used with caution to avoid accident or possibly death.

A—lways provide metal receptacles for oil rags and waste. Spontaneous combustion may result by failure to do so.

N—ever permit children to play with matches—many a little tot has lost its life through neglect of parents to caution against this dangerous practice.

I—nsist on the inspection of every property in your community and the remedying of conditions in the interest of Fire Prevention; let this be done by either local or State officials and see to it that it is thoroughly done.

A—ssist in this work by calling together the neighbors and forming a Fire Prevention Association.

F—ires come when least expected.

I—s not the saving of your home worth an effort to get busy and protect it by cleaning up and keeping it clean, free from rubbish and trash.

R—emember to have fire prevention in your home is better than to mourn over the remains of beloved ones, or the sympathy of your neighbors over your loss.

E—xtinguish matches before throwing them away. Use none but safety matches.

P—eople are great when they unite in a common cause—nothing is more beneficial or profitable than the prevention of fire losses.

R—ubbish heaps are fire breeders. Fires start in them and are fed by them. A clean city will have few fires.

O—il stoves and lamps should be trimmed only in daylight and out of doors if possible.

O—wners of property should use all reasonable effort to preserve their property in the event of fire—better, however, to expend effort in the prevention of fire.

F—requent clean-ups prevent fires, add to the beauty of the home and surroundings, enhance the value of property, create comfort and happiness and will

MAKE PENNSYLVANIA FIREPROOF.

WHERE TO HEAD IN.

A young lad listened very intently to an address on Fire Prevention delivered to the pupils in his school. He was very much impressed by the statement of the speaker that numberless fires were caused by piles of trash and litter in the basement and discarded papers and magazines and other refuse stored away in the attic, and also by the remark that the chimney and stovepipes should be looked after at least once a year.

That evening the father came from his office, and hearing unaccustomed noises in the basement, asked the cause thereof. "I don't know," replied the mother. "The son has been busy down there ever since he returned from school." Bent upon investigation, the father went downstairs and found the boy very busy in clearing up piles of rubbish and putting the basement in order. "What's happening, kid?" the father asked. The boy turned loose on the afternoon address and gave his father a lecture on Fire Prevention. He concluded in the following manner:

"You see, dad, I thought it was up to me to look after the basement, but believe me, when I finish this job, I'm going to tell you and mother where to head in on the chimney and attic."

CAUSES OF INCENDIARY FIRES.

Financial Difficulties of Merchants and Property Owners.—A merchant fully covered by insurance finds himself in straightened circumstances with poor business and pressing creditors—it means bankruptcy. If he is unscrupulous, the sudden thought of the ease of securing plenty of funds by means of a fire comes to him; this is certainly preferable to bankruptcy, as he then can continue in business with a better standing than ever. Or a property owner, also unscrupulous, finding he has made a bad bargain in a parcel of real estate, or having a parcel that is not rentable either by reason of requiring certain repairs or improvements, or finding mortgages pressing for payments with no funds on hand to meet them, being in danger of having the property taken away from him, finds a ready way out of his difficulties through a fire.

Bad condition of Buildings and Poor Condition of Merchandise.—Certain old buildings having no improvements and requiring considerable repairs, and that in some instances should be condemned by the proper authorities, are insured by some agents for the same amount for which a good and up-to-date building would be insured. Stock in trade is in many instances insured, that is, in most part unsaleable and old merchandise; no proper investigation and appraisal of its value is made by the agent—this fact in itself ofttimes acts as an incentive.

Failure of the Authorities to Condemn Unsafe and Dilapidated Buildings.—In certain quarters of all large cities will be found old structures which are of little value, which should be condemned as a fire menace. They can be purchased with very little money and easily insured over their value, and offer a ready inducement to the incendiary. If boards of health and building inspection departments were active in the condemnation of such buildings, and not at times subservient to political influence, they would have removed the causes of many fires.—The Montreal Chronicle.

Since April incendiary fires have destroyed enough foodstuffs to ration an army of 500,000 men for a year, and nobody has been hanged for it.

Monthly Bulletin

"MAKE PENNSYLVANIA FIREPROOF"

Department

OF THE

State Fire Marshal

OF

Pennsylvania

OFFICE—ROOM 166
Capitol Building, Harrisburg, Pa.
G. CHAL. PORT, State Fire Marshal

VOL. VI JANUARY 1918 NUMBER 22

The incendiary belongs to neither of the classes who are fighting, preparing to fight, or putting forth efforts for the conservation of resources, but is a destructive agent who should be dealt with as an enemy and shown no consideration or mercy.

P 38.32
1.6

AN UNNECESSARY AND DISGRACEFUL RECORD.

FIRE LOSSES IN THE UNITED STATES FOR TEN MONTHS, 1917.

January,	$35,340,420
February,	28,101,860
March,	16,135,850
April,	17,383,975
May,	23,447,925
June,	14,259,770
July,	15,455,350
August,	19,205,000
September,	12,880,690
October,	25,924,450
	$208,135,290

This is an increase over 1916 of $37,182,220, or $3,718,220 per month. At the same ratio the fire loss in 1917 will approximately amount to $250,000,000, which means that the country is poorer by that amount with nothing to show for the useless waste but a pile of valueless ashes.

In October alone the value of food products destroyed was $4,500,000, showing that the necessity of conservation is either being neglected or that incendiarism by enemies of the Nation is on the increase.

This condition must be remedied and whoever helps in prevention is performing an act of patriotism.

VOL. VI No. 22

MONTHLY BULLETIN

Department

OF THE

State Fire Marshal

OF

Pennsylvania

G. CHAL. PORT, State Fire Marshal

Bulletin of Information for the Public

JANUARY, 1918

HARRISBURG, PENNA.:
J. L. L. KUHN, PRINTER TO THE COMMONWEALTH
1918

THE WATCHMAN EVIL.

SUPERANNUATED EMPLOYEES.

"The subject of watchmen opens a big field for consideration. The prevailing custom among manufacturers, warehousemen and others is that of engaging as night watchman some superannuated employee who is no longer physically able to earn a workman's pay. Such a watchman may take his occasional rounds of clock stations in a purely mechanical way, but the amount of real protection which he furnishes, especially in war time, is very small. Generally he can be avoided with ridiculous ease by any one who is in the place with hostile intent. Or, if not avoided, his overpowering is a matter of little difficulty.

"Some of you know of a recent test in a very large grain elevator, where inspectors were sent into a plant at night time, without the knowledge of the aged watchman. These inspectors spent six hours within the plant and made drawings of many of its important features, but their presence was never once detected. As a consequence the owners were given the alternative of engaging a sufficient number of young and vigorous guards or of having their plant taken over by the State authorities.

A 900-FOOT PIER WITH ONE WATCHMAN.

"The big Baltimore fire of October 30th is a striking example of insufficient watchman service. Here was a pier, 900 feet long, containing such a valuable accumulation of freight as 50,000 bales of wood pulp, 150 carloads of flour, 20 cars of tobacco, 30 cars of bark extract, 40 cars of lubricating oil, 25 cars of spelter, 23 cars of roofing paper, 15 cars of miscellaneous freight in the portion of the pier that was destroyed. Pier 9 contained 29,000 bales of wood pulp, 7,000 cases of imported liquor in the bonded end, 300 crates of earthenware, 100 bales of oakum, 100 cars roofing paper, 50 cars of linseed oil cake, 20 cars of tobacco, 23 cars of miscellaneous freight. Think of leaving these stores in the sole charge of a single watchman in a time such as the present!

"There are really few subjects in fire prevention so important as the abrogation of this time-honored custom of inefficient watchmen. To make the safeguarding of our production of supplies depend upon those who can furnish only nominal safety, during the hours when

darkness brings the greatest dangers, and to do this in a period of extensive hostile activities would be ludicrous if it were not so grave. It is equivalent to locking the windows and leaving the front door open.

PICKED MEN, NOT DERELICTS.

"Watchmen are charged with extraordinary responsibility. They should be picked men, not derelicts. They should be intelligent, courageous, and physically active. They should be sufficient in number to furnish real protection. They should be armed. They should receive special training for their important duties, and this training should include knowledge of fire alarms, fire prevention and fire protection. They should never be engaged except upon unmistakable evidence of character, and they should be paid the salaries that will command such qualifications.

"I wish respectfully to suggest that you gentlemen give early and earnest consideration to the correction of what we may well call 'the watchman evil.' I wish to raise the point as to whether each one of you may not profitably undertake to secure statistics of the watchmens' service in his own State, and to formulate means for a sweeping reform of the whole absurd system. If this can be done, and I believe that you can do it, the efficiency and safety of the nation will be greatly enhanced. It is a crying need of the present hour."—(Extracts from the address of W. E. Mallalieu.)

(Resolution passed by the Fire Marshal's Association of North America, November 16, 1917.)

Whereas, We recognize the danger that exists during this very critical period in the world history because of the inefficient and insufficient protection of our foodstuffs and all commodities and materials necessary for the successful prosecution of the war; therefore, be it

Resolved, That every state and provincial fire marshal be charged with the duty of bringing this condition to the attention of the owners of such properties and requiring them to properly protect same by guards adequate in number, of unquestioned loyalty and physical fitness, to the end that these properties may be saved from destruction by fire through crime or negligence; and futher,

That the Secretary of this Association be instructed to transmit a copy of this resolution to each and every fire marshal within forty-eight hours from the adjournment of this meeting.

NOW THE TIME TO ACT.

At no period of our country has the necessity of conservation by Fire Prevention been brought to the attention of law-abiding citizens than at the present time. Daily we read in the papers of the destruction of grain elevators, mills and warehouses and with such frequency are they occurring that it clearly indicates that some agency is at work, other than the usual cause of such losses, that of carelessness, neglect or accident. Uncle Sam recognizes the intent in this destruction, which is to reduce productions and create, if possible, a famine in food supply and is using all the resources of the government in endeavoring to bring to punishment those responsible for this condition and rightfully expects every citizen to lend assistance in this work of Fire Prevention and conservation of the necessities of life.

To-day everything may be plentiful, but by looking forward it can readily be seen that in a short time the demand will be greater and as time goes by still greater and every particle must be saved for this future demand. This affects everyone, from the youngest to the oldest, and as the number of workers leave to take their places among the country's defenders, hardships will probably ensue that can be lightened by present day's care in the making and saving of all articles of consumption. This must be done at once and no means can be better adopted to cope with the solution than that of effective Fire Prevention, which is the duty of every citizen to enforce, not only in and about his own premises, but insist that the same be effectually carried out in his community and if any be found opposing its introduction, or interfering with its being carried out, they should be looked upon with suspicion and kept under constant surveillance. Food must be particularly conserved, as also must every article that enters into the necessity of living, for the equipment and comfort of those gone forth to do their duty to their country and uphold Liberty and Democracy, and the stay-at-homes have a responsibility and a duty to perform which can be affected through work for Fire Prevention and conservation and it's the bounden duty of every person to do his, or her, part in this labor of necessity.

LOSSES BY FIRE IN AUGUST, 1917 REPORTED TO THE STATE FIRE MARSHAL.

(Excluding Philadelphia and Pittsburgh.)

Adams,	4	Lancaster,	40
Allegheny,	134	Lawrence,	10
Armstrong,	14	Lebanon,	16
Beaver,	5	Lehigh,	22
Bedford,	3	Luzerne,	65
Berks,	53	Lycoming,	35
Blair,	28	McKean,	24
Bradford,	27	Mercer,	32
Bucks,	22	Mifflin,	1
Butler,	8	Monroe,	7
Cambria,	25	Montgomery,	25
Carbon,	9	Northampton,	27
Centre,	11	Northumberland,	10
Chester,	12	Perry,	2
Clarion,	9	Pike,	4
Clearfield,	31	Potter,	8
Clinton,	5	Schuylkill,	33
Columbia,	12	Snyder,	2
Crawford,	20	Somerset,	11
Cumberland,	13	Sullivan,	5
Dauphin,	39	Susquehanna,	8
Delaware,	20	Tioga,	12
Elk,	12	Union,	4
Erie,	59	Venango,	20
Fayette,	15	Warren,	11
Franklin,	12	Washington,	33
Fulton,	1	Wayne,	7
Greene,	6	Westmoreland,	53
Huntingdon,	9	Wyoming,	3
Indiana,	11	York,	28
Jefferson,	7		
Juniata,	4		1,294
Lackawanna,	96		

MATERIAL OF CONSTRUCTION OF BUILDINGS BURNED IN AUGUST, 1917.

(Excluding Philadelphia and Pittsburgh.)

Wood,	1,019	Stone and brick,	3
Wood and brick,	6	Concrete,	5
Brick,	214	Other material,	23
Stone,	14		
Stone and wood,	10		1,294

CAUSES OF FIRES IN AUGUST, 1917.

(Excluding Philadelphia and Pittsburgh.)

Adjoining,	96	Incendiary,	8
Backfire,	14	Lamps,	24
Boiling tar,	2	Lantern,	2
Boiler explosion,	1	Lightning,	573
Bonfire—rubbish,	3	Matches,	57
Candle,	3	Oil stove,	13
Child—matches,	13	Open fire,	5
Cigar—cigarettes,	9	Open light,	27
Chimney—flues,	40	Smoking,	28
Clothing—stove,	4	Sparks—Chimney,	35
Electric wiring,	23	Sparks—cupola,	3
Film explosion,	1	Sparks—furnace,	1
Friction,	1	Sparks—locomotive,	9
Fumigation,	1	Sparks—stacks,	5
Gas explosion,	3	Sparks—stove,	2
Gas heater,	3	Spontaneous combustion,	15
Gas jet,	15	Stove—stovepipe,	29
Gas leak,	4	Suspicious,	11
Gas stove,	1	Traction engine,	2
Gasoline explosion,	1	Undetermined,	187
Hot ashes,	5	Vulcanizing,	3
Hot grease,	9		
Hot metal,	3		1,294

BUILDINGS AND AUTOMOBILES DESTROYED OR DAMAGED BY FIRE IN AUGUST, 1917.

(Excluding Philadelphia and Pittsburgh.)

Counties.	Fires reported.	Dwellings.	Barns.	Stores.	Stores and dwellings.	Manufactories.	Garages.	Other buildings.	Automobiles.
Adams,	4	1	1					2	
Allegheny,	134	97	9	15	5	1	1	5	1
Armstrong,	14	10	2					2	
Beaver,	5	4	1						
Bedford,	3	1	1				1		
Berks,	53	31	10		2	4		5	1
Blair,	28	13	3	3	1			8	
Bradford,	27	13	11		1			1	1
Bucks,	22	8	13					1	
Butler,	8	6	1					1	
Cambria,	25	21	1	2				1	
Carbon,	9	7	2						
Centre,	11	6	5						
Chester,	12	9					1	1	1
Clarion,	9	2	6	1					
Clearfield,	31	17	12	1				1	
Clinton,	5	4					1		
Columbia,	12	8	1	1	1			1	
Crawford,	20	10	7	1				2	
Cumberland,	13	9	3						1
Dauphin,	39	28	7				1	3	
Delaware,	20	10	1	2	2		1	3	1
Elk,	12	10	1			1			
Erie,	59	26	4	3	1	1		21	3
Fayette,	15	8	2	2				2	1
Franklin,	12	3	4				2	3	
Fulton,	1		1						
Greene,	6	3	1		1	1			
Huntingdon,	9	4	2	1	1			1	
Indiana,	11	8	1	2					
Jefferson,	7	5	1	1					
Juniata,	4	1	1					2	
Lackawanna,	96	65	8	3	3		4	9	4
Lancaster,	40	16	17	1				6	
Lawrence,	10	6	3		1				
Lebanon,	16	6	8	2					
Lehigh,	22	9	10	1				2	
Luzerne,	65	51	3	3	3			5	
Lycoming,	35	16	12			1		6	
McKean,	24	11	5	4		1	1	2	
Mercer,	32	21	6	1				3	1
Mifflin,	1		1						
Monroe,	7	3	2					1	1
Montgomery,	25	13	4					6	2
Northampton,	27	18	4		2		1	1	1
Northumberland,	10	6	2		1		1		
Perry,	2	2							
Pike,	4	2	2						
Potter,	8	6	2						
Schuylkill,	33	18	5	1		3		3	3
Snyder,	2		2						
Somerset,	11	8	2					1	
Sullivan,	5	2	3						
Susquehanna,	8	1	7						
Tioga,	12	5	7						
Union,	4	3						1	
Venango,	20	11	2	2	1	1		3	

BUILDINGS AND AUTOMOBILES DESTROYED OR DAMAGED BY FIRE IN AUGUST, 1917.

(Excluding Philadelphia and Pittsburgh.)

Counties.	Fires reported.	Dwellings.	Barns.	Stores.	Stores and dwellings.	Manufactories.	Garages.	Other buildings.	Automobiles.
Warren,	11	6	3	------	------	------	------	2	------
Washington,	33	21	2	4	2	2	------	2	------
Wayne,	7	3	2	------	1	------	------	------	1
Westmoreland,	53	33	5	5	------	------	------	10	------
Wyoming,	3	2	1	------	------	------	------	------	------
York,	28	16	6	------	3	------	------	3	------
Total,	1,294	763	251	62	32	16	15	132	23

WOMAN'S PART IN FIRE PREVENTION.

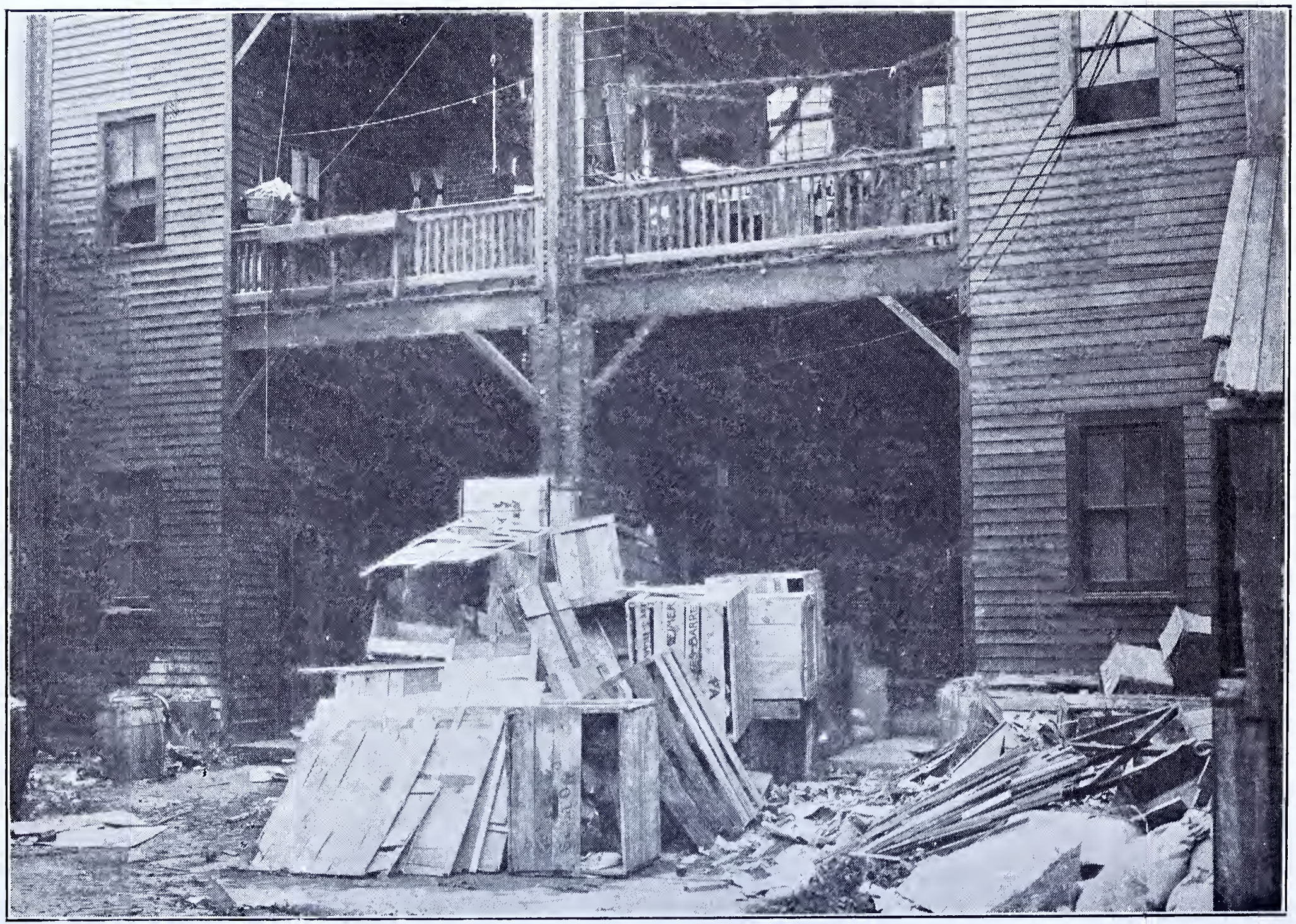
WOMEN CAN STOP FIRE WASTE.

The fight against fire consists of two branches: prevention and extinguishment. It is in the prevention of fires that woman can do her greatest work. The start in the prevention of fires should be when you commence to build your house. First of all, you should select a reputable architect and insist that he plan your house so that it will be built from the ground up in a way to make it at least "slow burning" if not "fireproof." Employ a competent and reliable builder, and see that the local inspectors, both building and electrical, keep in touch with the building. The building inspector should inspect all chimneys and flues especially, and the electrical inspector all wiring. After you have built your house in this manner and seen that it is in good condition, it is up to you to remember that good housekeepers seldom burn out. It is not enough to erect a house safely. It must be kept so.

If your house is already built, call in your building and electrical inspectors and have them make a thorough inspection, looking into especially the condition of chimneys, and flues, and the electrical wiring. Have them look into the condition of your basement, closets, and attic. Every city and incorporated town in North Carolina has inspectors of this kind and they are paid to do this work for you. You perhaps will never realize what these inspectors are worth, or how many fires they prevent.

DANGERS.

Everything in your house that is worthless is either in your basement or your attic or packed away in some closet. You are no doubt at this moment jeopardizing a residence worth a thousand or more dollars with a lot of worthless "junk" stored away in your basement or attic or crammed into a closet. By all means keep these places clean, for in so doing you are hitting the fire demon a severe blow, because most fires start from these accumulations in your attic, basement, or closets, and are thus enabled to get a good start before you are put on notice to begin the fight.—(North Carolina "News Bulletin.")



Somewhere, most anywhere, in Pennsylvania. Disgraceful and dangerous fire hazard. Fires caused from conditions like this are costing millions of dollars annually, taxing each individual. Won't you help to remedy by working for Fire Prevention?

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A PUBLIC DERELICTION.

Secretary Redfield, of the Department of Commerce, in his address before the last convention of the National Fire Protection Association, stated that while our national fire waste is to be deplored, what is more to be deplored is the mental attitude which this fire waste reveals. A correct mental attitude would be reflected by a much reduced fire waste and a hundred other symptoms of thrift. It is evident then that to change mental attitude will affect the fire losses more effectively than to change physical conditions by force of law. It is surprising to what an extent all fires are still looked upon as no more than private misfortunes or visitations of Providence. Only a few years ago, a state fire marshal was vigorously assailed in the editorial columns of a newspaper because he dared to suggest that a visitation of fire should be looked upon as a crime against the community unless there was clear evidence that negligence or design was not present.

A change is taking place in the attitude of our citizens toward fire losses. President Wilson in his recent statement on "preventable fire," struck one of the keynotes of this change by emphasizing that such a fire is more than a private misfortune. "It is a public dereliction." A careful reading of the President's statement shows that he made this part of it apply to preventable fires at any time, adding that "at a time like this of emergency and of manifest necessity for the conservation of national resources, it is more than ever a matter of deep and pressing consequence that every means should be taken to prevent this evil." To say that a preventable fire is a public dereliction is near to saying that a preventable fire is a crime against the state. This statement, coming as it does from a source so prominent, should do much in leading people to a correct attitude toward preventable fire

SAFEGUARD PRODUCTION.

The government has sent warning to producers of food-stuffs to be on guard against fire. It should not have been necessary to do this, as owners of elevators, mills, cold storage warehouses, in fact, all who own or operate establishments where large quantities of products are manufactured, stored or sold, should realize that self-interest alone dictates the preservation of all usable material from the ravages of fire.

At this time every ounce of food and supplies must be conserved. Our boys at the front and allied nations need them on the battlefield and in their homes. Our American boys are offering to give their lives in the fight for Liberty and World's Democracy and the crushing of militarism and barbarism, and we on our part must safeguard the food required for their maintenance. A great number of fires have occurred in elevators, mills and storage warehouses which indicate incendiarism, entailing tremendous loss of money and products. These fires are believed to have been caused by alien enemies and such undesirables must be guarded against and extra precautions taken. Watchmen should be provided with positive instructions to admit no one who cannot show credentials from either State or Federal authorities, and on no pretext should inspectors or even visitors be admitted by simply announcing that they desire to examine the establishment. First make them identify themselves and business and if admitted let them be accompanied and kept constantly under observation by a trusted employee, and any suspicious movement, such as making plans or taking notes, should be objected to and forbidden, the visitor ejected and the occurrence reported to the proper authorities, that his future action could be watched.

Precaution should be taken against fires caused by carelessness. Every modern method of prevention should be introduced. Employees should be drilled in use of apparatus. Owners and operators of plants where food products are manufactured, stored or sold, protect your plants in such a way as to render it impossible for anyone to destroy them. Conserve! conserve! and then conserve! by prevention and protection.

A PAIL MAY SAVE A CITY.

"They also serve who only stand and wait."

We cannot all be heroes on the battlefield. Nor can we all wear gold braid or padded khaki.

Our services may not lie in paths of glory, but every true American can do his bit.

War is on. It is real; it is earnest; it is uncertain. The fact that the theater of the great war has been viewed at long range from our shores should not blunt us to our new dangers.

A constant menace will be fire. Warfare is never dainty, and explosions and incendiarism may levy a heavy tax on American property.

To counterbalance the greater exposure of American property by reason of war, there should be greater vigilance and care by American citizens.

If the number of fires under normal conditions can be reduced by public co-operation, American fire insurance interests will be strengthened to meet the prospective losses arising from the direct or indirect consequences of war.

Here is a superb opportunity for the American householder to serve his country. The thrill of martial music and the huzzahs of cheering throngs may be lacking. but the civilian who in these pregnant moments protects his home and community against fire is every inch a soldier.

Every fire is a potential conflagration. and a small flame starting accidentally in a modest home may eventually reach some hidden cache of explosives, secretly stored in nearly every community, and the casualties may be worse even than the carnage of battle.

Property owners and householders should arm themselves with proper fire fighting equipment. Every family should be specifically warned and instructed. Every organization now mustering for local defense should include explicit directions to the community to exercise the utmost caution at this time.

If grenades, acid extinguishers and other patented devices are too expensive, a handy pail of water may save a city.

The patriots now organizing in various communities, eager to serve Uncle Sam, can raise no stronger or simpler defense for their homes than a corps of individual fire fighters, alert and ready to check at the outset this ravaging foe.

Owners of large manufacturing properties should be sure of their watchmen. Every precaution should be taken to prevent fires by accident or design.

EVERY FIRE INCREASES THE BURDEN OF TAXATION.

Every time the cry "Fire!" pierces the air, it is a sign that someone has ignored his duty as a citizen.

The core of genuine democracy is "community consciousness."

The community requirements for good citizenship include more than intelligent voting, obedience to law, and earning a living.

Good citizenship cannot impose the whole job of safeguarding the community on the police force and fire department. Public safety requires the active, zealous co-operation of every citizen within the gates.

The woof and web of every community is so tightly knit and interwoven that your conduct and my conduct affects in some way the lives of all.

Good citizenship requires that each individual be on guard at all times against anything that threatens the welfare of the community.

Fire is one of the worst perils that threaten any community. Alert vigilance at all times against the fire that may wipe out part of a community is a basic requirements of right citizenship.

Every fire means destruction of wealth. The loss is not to be the individual sufferer alone. Any wiping out of wealth must inevitably be absorbed by the whole community.

The cost, for instance, of fire departments has to be borne by all. Careful and careless alike have to dig into their pockets to pay the bill.

Every loss by fire is a loss to the community, and increases the burden of taxation.

There is a movement afoot to make the individual whose carelessness is responsible for a fire, pay the community's cost of fighting it for him.

When your house burns down and you collect the insurance you carried—you are by no means square with the community. You have imposed the cost of fighting the fire upon your neighbors and the fire department they maintain.

The "overhead" is vastly increased by the necessity of maintaining a fire department.

What are YOU personally, as the owner of a house, factory, shop, barn, garage or other building, doing to cut down to the minimum the peril of conflagration?

The fire losses for ten months this year in the United States amounted to $208,135,290.

These are staggering figures and mean a tremendous destruction of wealth—a loss which the whole community must in the end pay for.

This loss might have been saved, had fire prevention prevailed and proper means been on hand to annihilate these fires before they became big fires.

Fires that crumple up and wipe out public schools, theaters, factories, apartment houses and homes—and exact their tolls of lives—are vivid revelations of community responsibility. But the loss to the community is just as definite and irresistible, even though not as dramatic, when smaller fires wipe out property.—(Extracts, Michigan Bulletin.)

MONTHLY BULLETIN

"MAKE PENNSYLVANIA FIREPROOF"

Department

OF THE

State Fire Marshal

OF

Pennsylvania

OFFICE—ROOM 166
Capitol Building, Harrisburg, Pa.
G. CHAL. PORT, State Fire Marshal

VOL. V MARCH 1918 No. 24

P 38.32
1.3

CO OPERATION—OR CALAMITY.

Every person can aid and prevent calamity by preventing fire caused by thoughtlessness and carelessness which, if permitted to continue, resolves itself into criminal negligence and calamity; avoid this condition. Co-operate with those in authority and the public spirited citizens who are giving their service free in the fight for a reduction of the disgraceful fire waste which is absolutely unnecessary and only permitted to exist by the failure to recognize self interest, which should be considered, if not for personal benefit, then for community interest and as an example to the public in general.

VOL. V. No. 24

Monthly Bulletin

Department

OF THE

State Fire Marshal

OF

Pennsylvania

G. CHAL. PORT, State Fire Marshal

BULLETIN OF INFORMATION FOR THE PUBLIC

MARCH, 1918

HARRISBURG, PENNA.:
J. L. L. KUHN, PRINTER TO THE COMMONWEALTH
1918

AN APPEAL THAT SHOULD BE HEEDED.

The State Fire Marshal urgently appeals to the manufacturers throughout the State for the prevention of fire and the protection of their property and commodities. Danger exists and will increase during this critical period because of inefficient and unsufficient protection of foodstuff commodities and material necessary for the successful prosecution of the war. Attention should be given to the condition of properties by owners of such properties and they should not hesitate to properly protect them by providing trustworthy and efficient guards, adequate in number, to cope with any emergency that might arise, with a view of saving property from destruction by fire through crime or negligence. Adequate and sufficient fire fighting equipment should be supplied and care taken that such equipment is kept in good condition at all times ready for use. This includes sprinkler system, fire hydrants, hose, all other forms of extinguishers and method of alarm. Employes should be drilled in their use and knowledge of location and watchmen should be particularly trained in this important duty should occasion arise. A little precaution taken along the lines suggested may prevent what otherwise might be a disastrous fire and interrupt the output of necessities urgently essential.

The recent enormous fire waste which has startled the country might in many instances have been prevented by the detection of the fire when it first started and by proper equipment and drilling of employes in fire fighting. The investigation of a recent conflagration resulting in the loss of millions of dollars developed the fact that but one watchman had been assigned to protect a territory of several acres, on which was stored millions of dollars worth of merchandise and commodities, and this is only one example of the neglect to provide adequate protection needed to avoid recurrence of disasters of like nature.

CO-OPERATION OF CITIZENS AND MUNICIPAL OFFICIALS AN IMPERATIVE DUTY IN THE PREVENTION OF FIRE.

Within recent years the matter of Fire Prevention has been gaining recognition in the successful advancement and development of social and industrial life, and while it is highly important and necessary

to maintain proper and efficient fire protection facilities, it is also equally important and necessary that fire prevention methods be established in order to effectually prevent and reduce the unnecessary fire waste and the sacrifice of life by the carelessness, indifference and neglect of the citizens. Fire Prevention in its co-operative state may be identified as civic betterment, but where such co-operation is lacking it is the progressive prerogative of a municipality to require adherence either through the statutory laws, as far as their jurisdiction extends, or by the enactment of ordinance that will affix responsibility upon those who wilfully jeopardize life and property by fire hazards.

Chief among the methods of Fire Prevention should be considered—

Construction, Alteration, Repair and Maintenance of Buildings.

Demolition or Repair of Dilapidated Buildings constituting a menace to surrounding property and the endangering of life.

Prohibiting the accumulation of rubbish and waste materials in and about premises, and regulating the burning thereof.

Regulating the storage of gasoline and other petroleum products, explosives, etc.

Fixing liability for the cost of extinguishing a preventable fire upon persons in whose premises fire occurs as a result of disobedience to a fire prevention regulation or ordinance.

The enactment of such fire prevention methods affords the means of eliminating fire hazards, but it is, of course, necessary to see that the provisions are properly enforced. This can be conveniently and successfully accomplished by the organization of a Fire Prevention Bureau, under the direction of the Chief of the Fire Department, (with the co-operation of the Building Inspector insofar as it relates to Construction, Alteration, Repairs and Maintenance of Buildings) who shall appoint two members, or such number as may be deemed necessary, from each fire company, whose duty it shall be to make periodical inspections of all properties and premises in the territory assigned them, and order the abatement of fire hazards. The report of such inspectors should be filed with the Fire Prevention Bureau and where it is found that conditions have not been remedied within a reasonable length of time, or a recurrence is permitted, action should be taken against the offenders. Fire Prevention publicity is usually welcome by local newspapers, and has a fire reaching

effect in the community, and they should be induced to lend assistance in the movement for the betterment of conditions of hazardous nature.

The details of Fire Prevntion methods can best be applied in conformity with local requirements, which should be studied and by co-operation of citizens and officials at once remedied. The Act of June 3, 1911, establishing the Department of State Fire Marshal provides for the appointment of fire chiefs to act in the capacity of Assistants to the State Fire Marshal in the reporting of fires and for the purpose of bringing to the attention of the State Fire Marshal conditions applying to the repairing and demolition of dilapidated buildings, or the accumulation of rubbish, waste material, or the storage of explosives. Municipalities, in order to secure further protection, should enact ordinances for the institution of such provisions deemed necessary for the proper protection of life and property from fire, and see that they are rigidly enforced, permitting no influence from detering the officer charged with the enforcement of the ordinance from performing his duty.

Fire Prevention is a duty, and when the citizens realize that their co-operation is essential in this movement, they should freely assist the local authorities and avert jeopardy of life and unnecessary fire waste, which is an irrecoverable loss; interrupting business, and causing loss of employment; and secure in its stead civic cleanliness, industrial prosperity, reduction of insurance rates, and satisfaction in the knowledge that they are thereby safeguarding the community from a possible disaster.

TO ASSISTANT STATE FIRE MARSHALS.

By Your Help Pennsylvania Can be Made Fire Proof.

The country at this time is confronted with the enormous task of prosecuting war against an enemy abroad, and at the same time is confronted at home with a serious problem of combating a foe in the form of fire waste which must be suppressed in order that the production of munitions and supplies vital for the maintenance of our Army and Navy might not be interrupted. To win this war it is necessary to conserve to the fullest extent, the most important of which is to prevent destruction by fire of needed supplies.

The Assistant State Fire Marshals can be of invaluable aid not only to the community which they represent, but also to the State

at large, by giving this matter all the attention possible, which every citizen owes not alone to himself but also to his country. This Department is using all means possible to prevent in this State the enormous fire losses that have been occurring year by year, and during this strenuous period it is more obligatory that we increase the efficiency and function of every branch of this Department. We call upon each Assistant State Fire Marshal to lend his individual co-operation so that the results this department is endeavoring to obtain might be successful.

First—Report promptly all fires occurring in the district for which you are appointed, showing all information possible as called for on the fire report. In many instances these reports can be completed by the Assistant and forwarded to this Department within several days, but where this is not possible, the reports should be sent in at the first opportunity.

Second—If fire is of suspicious nature an immediate report of same should be made to this Department by telephone of telegram message (having charges reversed), or by forwarding as much of the facts of the case as possible by special delivery mail.

Third—In case of fire damaging or destroying commercial plants, mills, warehouses, or any other producing agency, information should be shown on the fire report the kind of business such concern was engaged in; the product manufactured; and the kind of material, if any, being manufactured for the United States Government.

Fourth—In addition to your co-operation with this Department you can also be of commendable service direct to your community in the prevention and suppression of fire by securing the individual attention of the citizens in remedying or removing about their premises any conditions that might tend to cause fire. Where no attempt is made to correct a dangerous condition that might be liable to fire and endanger other property, we would ask that you submit report to this Department promptly so that such action can be taken as will eliminate the hazard.

Any suggestions that you may have to offer will be appreciated.

LOSSES BY FIRE IN OCTOBER, 1917, REPORTED TO THE STATE FIRE MARSHAL.

(Excluding Philadelphia and Pittsburgh)

Adams,	4	Juniata,	1
Allegheny,	83	Lackawanna,	54
Armstrong,	8	Lancaster,	16
Beaver,	16	Lawrence,	7
Bedford,	5	Lebanon,	1
Berks,	30	Lehigh,	6
Blair,	24	Luzerne,	66
Bradford,	9	Lycoming,	17
Bucks,	16	McKean,	12
Butler,	10	Mercer,	22
Cambria,	23	Mifflin,	3
Cameron,	1	Monroe,	3
Carbon,	1	Montgomery,	21
Centre,	5	Montour,	2
Chester,	22	Northampton,	14
Clarion,	2	Northumberland,	8
Clearfield,	6	Perry,	6
Clinton,	1	Potter,	4
Columbia,	3	Schuylkill,	23
Crawford,	8	Snyder,	1
Cumberland,	7	Somerset,	4
Dauphin,	42	Susquehanna,	5
Delaware,	14	Tioga,	8
Elk,	7	Union,	3
Erie,	48	Venango,	12
Fayette,	20	Warren,	4
Forest,	1	Washington,	19
Franklin,	4	Wayne,	11
Fulton,	1	Westmoreland,	32
Greene,	1	Wyoming,	1
Huntingdon,	4	York,	20
Indiana,	14		
Jefferson,	4	Total,	851

MATERIAL OF CONSTRUCTION OF BUILDINGS BURNED IN OCTOBER, 1917.

(Excluding Philadelphia and Pittsburgh)

Wood,	636	Concrete,	5
Wood and brick,	5	Brick and stone,	1
Brick,	162	Tile,	3
Stone,	13		
Stone and wood,	8		
Other material,	18	Total,	851

CAUSES OF FIRES IN OCTOBER, 1917.

(Excluding Philadelphia and Pittsburgh)

Adjoining,	96	Matches and mice,	2
Backfire,	1	Miscellaneous,	12
Bonfire—rubbish,	5	Oil stove,	3
Broken oil hose,	1	Open fire,	13
Child—matches,	15	Open light,	46
Cigar—cigarettes,	9	Overheated boiler,	1
Chimney—flues,	71	Overheated furnace,	4
Clothing—stove,	3	Overheated stove and stovepipe,	11
Defective fire place,	1	Paint on stove,	1
Defective switch,	1	Sparks,	22
Electric iron,	4	Sparks—chimney,	12
Electric motor,	1	Sparks—engine,	4
Electric wiring,	28	Sparks—locomotive,	2
Exhausted gas pipe,	1	Sparks—picking machine,	1
Explosion,	11	Sparks—stacks,	1
Friction,	5	Sparks—stoves,	1
Gas explosion,	6	Sparks—threshing machine,	1
Gas heater,	3	Self ignition,	3
Gas jet,	21	Smoking,	7
Gas leak,	9	Smoking in bed,	1
Gasoline explosion,	1	Spontaneous combusion,	14
Hot ashes,	5	Steampipe,	1
Hot coals,	1	Stove—stovepipe,	31
Hot grease,	7	Suspicious,	4
Hot metal,	5	Torch,	2
Hot water heater,	1	Tramps,	2
Incendiary,	15	Undetermined,	179
Lamps,	31		
Lnghtning,	49		
Matches,	63	Total,	851

BUILDINGS AND AUTOMOBILES DESTROYED OR DAMAGED BY FIRE IN OCTOBER, 1917.

(Excluding Philadelphia and Pittsburgh)

Counties.	Dwellings.	Barns.	Stores.	Stores and dwellings.	Manufactories.	Garages.	Other buildings.	Automobiles.	Fires reported.
Adams,	2				1	1			4
Allegheny,	51	3	16	3	1	1	8		83
Armstrong,	5					1	2		8
Beaver,	12	1	3						16
Bedford,	3	1	1						5
Berks,	11	6			6		7		30
Blair,	15	1	5				3		24
Bradford,	5	3			1				9
Bucks,	11	3					2		16
Butler,	5		1	1			3		10
Cambria,	18		2				3		23
Cameron,							1		1
Carbon,			1						1
Centre,	3						2		5
Chester,	9	5	1			2	5		22
Clarion,	1						1		2
Clearfield,	2	1					3		6
Clinton,	1								1
Columbia,	2						1		3
Crawford,	4	1					2	1	8
Cumberland,	4				2		1		7
Dauphin,	19	3	9		2	3	5	1	42
Delaware,	12	1					1		14
Elk,	6						1		7
Erie,	23	2	4		1	1	14	3	48
Fayette,	14	1	2			2	1		20
Forest,	1						1		2
Franklin,	2	1	1						4
Fulton,	1								1
Greene,	1								1
Huntingdon,	1	1			1		1		4
Indiana,	6		6				2		14
Jefferson,	1		2				1		4
Lackawanna,	41		5	1	1	1	4	1	54
Lancaster,	7	3	2				2	2	16
Juniata,	1								1
Lawrence,	5	1			1				7
Lebanon,	1								1
Lehigh,	4	1						1	6
Luzerne,	44	2	7		1		12		66
Lycoming,	9	2			2		4		17
McKean,	6	2	1		1		2		12
Mercer,	12	1	4		2		3		22
Mifflin,	1						2		3
Monroe,	1		1				1		3
Montour,	1						1		2
Montgomery,	10		2	1		2	6		21
Northampton,	7	3			2		2		14
Northumberland,	7			1					8
Perry,	1		4	1					6
Potter,			1				2	1	4
Schuylkill,	12	3		2			4	2	23
Snyder,		1							1
Somerset,	1	1					1	1	4
Susquehanna,	4	1							5
Tioga,	5	2						1	8

BUILDINGS AND AUTOMOBILES DESTROYED OR DAMAGED BY FIRE IN OCTOBER, 1917—Concluded.

Counties.	Dwellings.	Barns.	Stores.	Stores and dwellings.	Manufactories.	Garages.	Other buildings.	Automobiles.	Fires reported.
Union,	1		2						3
Venango,	8	1			1	1	1		12
Warren,	3		1						4
Washington,	15	1	1		1		1		19
Wayne,	5	3	1				2		11
Westmoreland,	21	4		2		4	1		32
Wyoming,							1		1
York,	10	2	1		3		4		20
Total,	494	68	88	9	32	15	130	15	851

INSTRUCTIONS TO ASSISTANT STATE FIRE MARSHALS.

For years the unnecessary fire waste brought forcibly to the attention of the fire fighters of the State the fact that drastic measures should be adopted and enforced in an effort to reduce the waste, and at the same time decrease the hazards that the firemen were constantly compelled to endure. In order to bring about this change it was recognized that there must be a concentration of authority, together with adequate laws to properly study the situation and cope with conditions, and it was deemed essential that all fires occurring in the State should be reported, a study made of same, by investigating the cause and adopting remedies for their reduction, also by the inspection of buildings and removal of hazards, either by demolition of dilapidated buildings or correcting of conditions. Pursuant to these thoughts the State Fire Marshal's Department was established by the enactment of an Act approved the 3rd day of June, A. D. 1911. We feel that all citizens are interested in the reduction of fires and invite the co-operation of not alone the firemen who are deeply affected owing to the danger they are compelled to face, but also that everyone assist in the effort toward Fire Prevention and the conservation of life and property. We want your assistance and by giving this you will be helping in reducing the fire waste.

APPOINTMENT.

The Act establishing the office of the State Fire Marshal, provides that the chief of a fire department, and where there is no chief, the Burgess of a Borough or the President or Chairman of the board of supervisors of a township shall by virtue of their office, become assistants to the State Fire Marshal, subject to his direction. The State Fire Marshal may also appoint individual citizens as assistants, who shall be subject to the duties and obligations aforesaid, and to the directions of the State Fire Marshal.

DUTIES.

READ CAREFULLY the following instructions and do not hesitate to take up with the Department any portion that is not entirely **clear.**

In reporting fires write plainly, and fill out every item. It is essential for statistical records and an aid where special investigations are necessary. Special care should be taken in the proper spelling of names of owners and occupants.

Every fire occurring in an Assistant's territory should be reported within ten days of occurrence upon blanks provided by the Department. Your promptness in complying with this provision will greatly facilitate the work of the Department.

If fire is of suspicious or incendiary origin the information should be telegraphed or telephoned to the Department promptly, having charges for the telegram or telephone message reversed. Telegrams should be limited to ten words.

Do not submit reports where no fire loss has been sustained.

Do not report any fires occurring outside the district in which appointed. Assistants appointed in townships have jurisdiction only in such portions of the township which are not incorporated as Boroughs or Cities.

If it is not possible to secure information from owner or insurance agent living in your locality to complete report of fire, it is requested that they be communicated with by mail.

Where a fire occurs in a building occupied by more than one tenant the name of each tenant suffering loss should be shown on one report, and their losses computed as a total under contents.

This Department has no jurisdiction over forest fires. Matters of this kind are in charge of the State Forestry Department Harrisburg.

When an Assistant's term expires he should promptly advise the Department to that effect and submit the name and address of his successor so that proper appointment can be made.

If fire occurs in a store or manufactory establishment state kind of store or manufactory, i. e., grocery store, clothing store, cigar factory, hat factory, etc.

Be sure to give cause of fire. "Unknown" is not a cause. No fire occurs without a cause. If you are not able to determine the cause of the fire after investigation the same should be reported as "Undetermined."

Where a fire is caused by lightning it is important to show whether or not building was equipped with lightning rods, and if possible give make and age of rods.

"CARELESSNESS" cannot be accepted as a cause of a fire, because all fires save those from an adjoining fire, incendiarism and lightning result from carelessness.

"ADJOINING FIRE" applies in all cases where a structure is damaged or destroyed by the burning of a nearby building.

"OVERHEATED STOVE" is not explicit enough. What was ignited by it should be stated. A sound stove properly placed and protected cannot burn a house by being overheated.

"SPONTANEOUS COMBUSTION." Tell the material in which it occurred and the conditions as to ventilation.

"GASOLINE." All gasoline fires start with an explosion. In every case state exactly how the gasoline was being used and tell what flame started the explosion. If it was a stove or lamp tell the kind and the name of maker if possible.

"SPARK." Tell the source of the spark and what it ignited. If from an engine it should be shown if it came from a locomotive, or a traction or a stationary engine.

If an assistant deems that a general inspection of his district should be made he will communicate with the State Fire Marshal, requesting the same, and if possible accompany the special inspector and assist in obtaining the removal of fire hazards.

Assistants should render to local authorities every assistance in carrying out law and ordinances intended to save life and property from destruction, and should take a leading part in every activity pertaining to Fire Prevention and assist in cleaning and keeping clean their respective districts. The Department invites any suggestions in the elimination of fire hazards and dangerous conditions.

COMPENSATION.

The law provides that Assistants shall receive fifty cents for each complete report of a fire and fifteen cents per mile, one way, for distance traveled to fire. In the event that an Assistant is directed specially by the Department to investigate a fire or to make inspection of buildings, he shall receive $3.00 per day for this service, eight hours constituting a day's work. This latter fee is not applicable to the regular reporting of fires.

Payments are made quarterly audited from the reports received from the Assistants. Quarters end as follows: February 28, May 31, August 31, and November 30, of each year. If reports of fires are not received in time to be audited for the quarter in which fires occurred, credit for same will be allowed in following quarter.

The Department does not pay for fighting fires of any kind.

When quarterly payment is received the voucher and check should be properly signed and endorsed and be presented at bank promptly.

AN ACT

Establishing the office of State Fire Marshal defining his powers and duties; providing for his compensation, and the maintenance of his office; giving courts the power to punish witnesses for contempt of his authority, and to review his orders; and making it the duty of officers of public instruction and persons in charge of public or private schools to instruct children as to the dangers of fire and the prevention of fire waste.

Section 1. Be it enacted, &c., That the Governor of the Commonwealth shall, within thirty days after the approval of this act, appoint a State Fire Marshal, who shall hold office for a term of four years, or until his successor is appointed and qualified. The State Fire Marshal shall be a citizen of the Commonwealth of Pennsylvania, shall keep his office in the capitol at Harrisburg, and shall devote his entire time to the duties of his office. He shall receive an annual salary of five thousand (5,000) dollars, and in addition shall be paid his actual and necessary expenses incurred in the performance of the duties of his office. He shall give bond, in the sum of ten thousand (10,000) dollars, for the faithful performance of his duties.

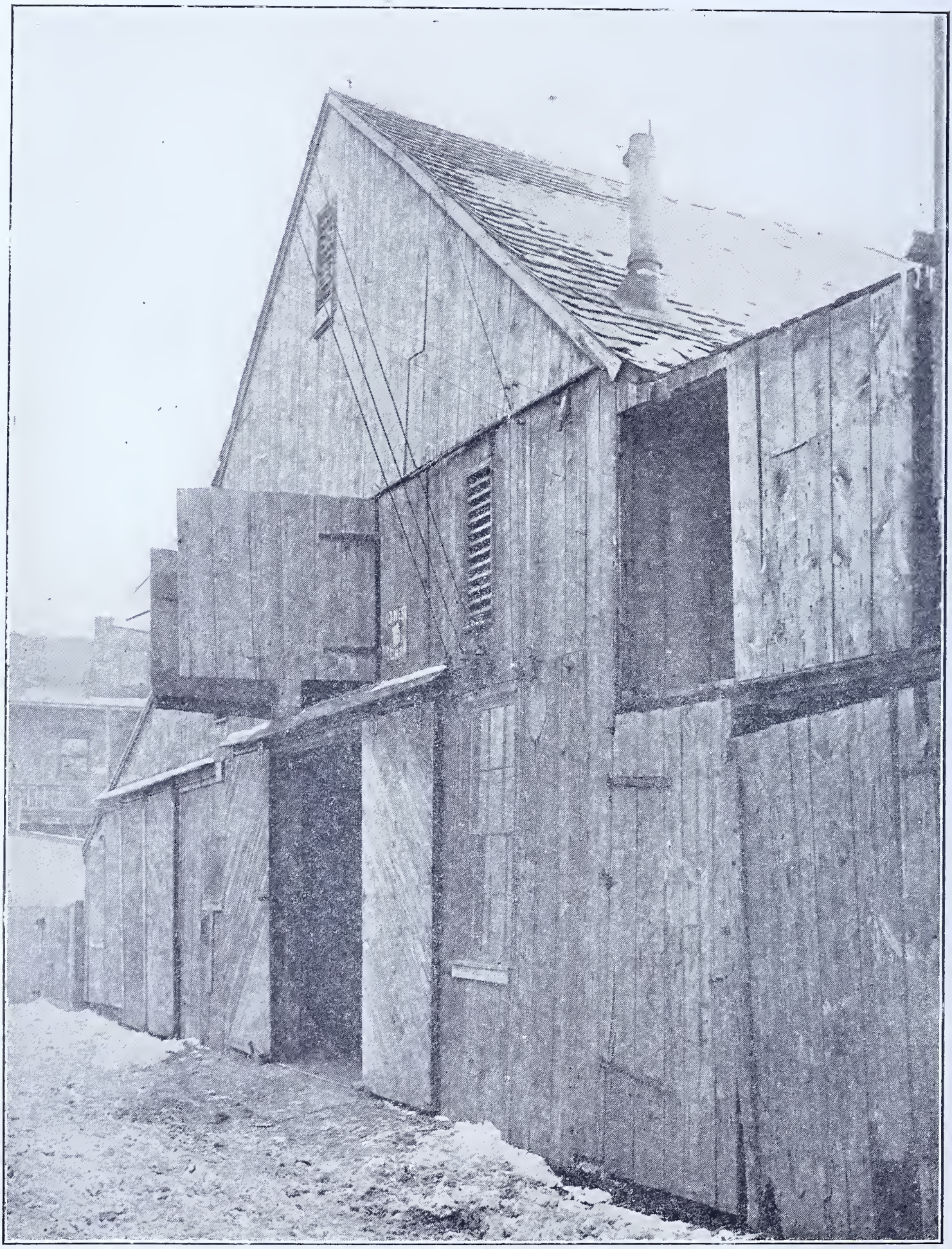
Section 2. The State Fire Marshal shall appoint a chief assistant fire marshal, who shall receive an annual salary of four thousand (4,000) dollars; and a first and second deputy fire marshal, each of whom shall receive an annual salary of three thousand (3,000) dollars. Each such assistant and deputy shall also be paid his actual and necessary expenses incurred in the performance of the duties of his office. The State Fire Marshal shall also appoint one or more stenographers, at an annual salary not to exceed one thousand two hundred (1,200) dollars each; and such other clerks and assistants as may be needed, at a cost not exceeding three (3) dollars per day each. In case of the absence of the State Fire Marshal, or his inability, for any cause, to discharge the duties of his office, such duties shall devolve upon the chief assistant fire marshal. In case of the absence or inability, for any cause, of both the State Fire Marshal and chief assistant fire marshal, their duties and powers shall devolve upon the first deputy, and, failing him, upon the second deputy.

Section 3. The chief of the fire department in any county, city, borough, township, school district, or other municipality or incorporated district, where such fire department is established, or, where

Fire hazard at Kutztown, Pa., ordered razed or remedied in the interest of Fire Prevention.

Fire hazard at Kutztown, Pa., ordered razed or remedied in the interest of Fire Prevention.

Dilapidated buildings somewhere in Pennsylvania. Do you recognize them? If so, get busy and remedy conditions in the interest of Fire Prevention.



Dilapidated buildings somewhere in Pennsylvania. Do you recognize them? If so, get busy and remedy conditions in the interest of Fire Prevention.

no such fire department exists, the burgess of any borough, or president or chairman of the board of supervisors of any township or other municipality or incorporated district, shall be, by virtue of such office held by them, assistants to the State Fire Marshal, and subject to the duties and obligations imposed by this act, and subject to the directions of the State Fire Marshal in the execution of the provisions hereof. The State Fire Marshal may also appoint individual citizens as assistants, who shall be subject to the duties and obligations aforesaid, and to the directions of the State Fire Marshal. Immediately upon taking office, the State Fire Marshal shall prepare instructions to the assistant fire marshals, and forms for their use in the reports required by this act, and shall cause them to be printed and sent, together with a copy of this law, to each such officer in the Commonwealth.

Section 4. The assistants of the State Fire Marshal shall investigate the cause, origin, and circumstances of every fire occurring in this State, by which life or property has been destroyed, damaged, or endangered, and so far as possible shall determine whether the fire was the result of design or carelessness. Such investigation shall be begun immediately upon the occurrence of the fire, by the assistant in whose territory it has occurred, and if it appears to the assistant making such investigation to be of suspicious origin the State Fire Marshal shall be immediately notified of such fact. Every fire occurring in this State shall be reported in writing to the State Fire Marshal, within ten days after its occurrence, by the assistant in whose jurisdiction it occurred. Such report shall be in the form prescribed by the State Fire Marshal, and shall contain a statement of all facts relating to the cause and origin of such fire that can be ascertained, the extent of damage thereof, the insurance upon the property injured or destroyed, and such other information as may be required: Provided, however, That the duties to be performed by the assistant fire marshals, or any of them, may be limited by the State Fire Marshal so as to reasonably accord with their pre-existing public duties.

Section 5. The State Fire Marshal, his deputies or assistants, upon the complaint of any person, or whenever he or they shall deem it necessary, shall inspect the buildings and premises within their jurisdiction. Whenever any of the said officers shall find any building or structure which, for want of repairs, or by reason of age or dilapidated condition, or for any other cause, is especially liable to fire and

so situated as to endanger other property, he or they shall order the same to be removed or remedied, if the same is reasonably practicable, thereby lessening the danger from fire. Whenever such officer shall find in any building combustible or explosive matter or inflammable conditions which are in violation of any law or ordinance applicable thereto, or are dangerous to the safety of such buildings, thereby endangering other property, he or they shall order the same to be removed or remedied, and such order shall forthwith be complied with by the owner or occupant of such premises or building. If such order is made by a deputy or assistant of the State Fire Marshal, such owner or occupant may, within five days, appeal to the State Fire Marshal, who shall within ten days review such order and file his decision thereon; and unless by his authority the order is revoked or modified, it shall remain in full force, and be obeyed by such owner or occupant: Provided, however, That any such owner or occupant, who feels himself aggrieved by such order, may, within five days after the same has been affirmed by the State Fire Marshal, file his petition within the court of common pleas of the proper county, praying a review of such order; and it shall be the duty of the court to hear the same at the first convenient day, and to make such order in the premises as right and justice may require.

Any owner or occupant failing to comply with such order within ten days after said appeal shall have been determined, or, if no appeal is taken, then within twenty days after the service of said order, shall be liable to a penalty of twenty-five dollars for each day's neglect thereafter. The service of any such order shall be made upon the occupant of the premises to whom it is directed, by either delivering a true copy of same to such occupant personally, or by delivering the same to and leaving it with any person in charge of the premises, or, in case no such person is found upon the premises, by affixing a copy thereof in a conspicuous place on the door to the entrance of the said premises. Whenever it may be necessary to serve such an order upon the owner of premises, such order may be served either by delivering to and leaving with the said person a true copy of the said order, or, if such owner is absent from the jurisdiction of the officer making the order, by mailing such copy to the owner's last known post-office address. The penalties herein provided may be recovered as debts are by law collectible, in any courts having jurisdiction of the parties. Such action shall be brought in the name of the Commonwealth, under the direction of the State Fire Marshal or any

of his deputies or assistants by the Attorney General, or by any district attorney or legally constituted law officer of any county, city, borough, township, or other municipality, who may be designated by the Attorney General; or, at the option of the Attorney General, he may designate any attorney to bring such action.

Section 6. The State Fire Marshal or his deputies, in addition to the investigation made by any of the assistants, may at any time investigate the origin or circumstances of any fire, occurring in this Commonwealth. The State Fire Marshal, his deputies and assistants, shall have the power to summon witnesses, and compel them to attend before them, or either of them, to testify in relation to any matter which is by the provisions of this act a subject of inquiry and investigation; and may require the production of any books, papers, or documents deemed pertinent or necessary to the inquiry; and shall have the power to administer oaths and affirmations to any person appearing as a witness before them; such examination may be public or private, as the officers conducting the investigation may determine.

No person shall be excused from attending before the said Fire Marshal, or any of his deputies or assistants, when summoned so to attend; nor, when ordered so to do, he shall be excused from testifying, or producing any books, papers, or documents before such officer, upon any investigation, proceeding, or inquiry instituted under the provisions of this act; upon the ground or for the reason that the testimony or the evidence, documentary or otherwise, required of him, may tend to convict him of a crime or subject him to a penalty or forfeiture; but no person shall be prosecuted, or subjected to a penalty or forfeiture, for or on account of any transaction, matter, or thing concerning which he may have been required so to testify or produce evidence, documentary or otherwise; and no testimony, so given or produced, shall be received against him upon any criminal investigation or proceeding. If after any such examination the State Fire Marshal, or any of his deputies or assistants, is of the opinion that the facts in relation to such fire indicate that a crime has been committed, he shall present the testimony taken on such examination, together with any other data in his possession, to the district attorney of the proper county, with the request that he institute such criminal proceedings as such testimony or data may warrant.

The State Fire Marshal, or his deputies or his assistants, may, at all reasonable hours, enter any building or premises within his or

their jurisdiction, for the purpose of making an inspection, which, under the provisions of this act, he or they may deem necessary to be made.

Section 7. Any witness who refuses to obey a summons of the State Fire Marshal, his deputies or assistants; or who refuses to be sworn or to testify; or who disobeys any lawful order of the State Fire Marshal, his deputies or assistants, in relation to any investigation instituted by him or them; or who fails or refuses to produce any books, papers, or documents touching any matter under investigation or examination; or who is guilty of any contempt, after being summoned to appear before him or either of them to give testimony in relation to any matter or subject under examination or investigation as aforesaid, may be punished as for contempt of court. For this purpose, application may be made to any court within whose jurisdiction the contempt in question took place, and for which purpose the courts of common pleas of this Commonwealth are hereby given jurisdiction.

Section 8. The State Fire Marshal shall keep in his office all records which may be sent him in accordance with law relative to the physical condition of buildings, whether the laws and ordinances have been complied with so far as the same relate to fire protection, records of application for fire insurance upon buildings, or other information relating thereto which may be sent him in compliance with law; and shall also keep a record of all fires occurring in this State, and of all the facts concerning the same, including statistics as to the extent of such fires and the damage caused thereby, and whether such losses were covered by insurance, and, if so, in what amount. Such records shall be made daily, from the reports made to him by his assistants, under the provisions of this act. All such records shall be public except that any testimony, taken in investigations under the provisions of this act, may be withheld from the public, in the discretion of the State Fire Marshal.

It shall be the duty of the State Fire Marshal to prepare blank forms for the furnishing of information, by owners or occupants of buildings, throughout the Commonwealth, of the condition of such buildings with regard to fire protection. The said blanks shall contain notice to such property owners or occupiers of proper rules and regulations to minimize the danger of fire and to suppress fire waste; and shall contain certain questions requesting information of a definite character, to show the condition of the buildings as aforesaid.

These blank forms shall be furnished by the Fire Marshal to officers whose duty it is to receipt for taxes on real property, in every part of the Commonwealth, to be given by them to property owners, together with their tax bills (two forms for each property); with the requirements that one, properly filled out, be forwarded to the State Fire Marshal at once, for filing among the records of his office, and that the other be so forwarded six months thereafter.

Section 10. It shall be the duty of the Fire Marshal to prepare, in consultation with the Superintendent of Public Instruction, books of instruction, for use in the public and private schools of students of all grades, with regard to the dangers of fire and the prevention of fire waste. It shall be the duty of the Superintendent of Public Instruction, and of the principals or other persons in charge of the various schools in this Commonwealth, to provide for the instruction and training of pupils of such schools by means of drills, so that they may, in sudden emergencies, be able to leave the school buildings in the shortest possible time without confusion or panic. Such drills shall be held at least once a month when the schools are in session. Books of instruction with regard to the dangers of fire and the prevention of fire waste, as above specified, shall be published at the expense of the State, under the direction of the Superintendent of Public Instruction, and shall be distributed in sufficient quantities for the use of the schools as herein provided; and the curriculum of such schools shall include some regular and continuous study of such subjects during the entire school year.

Section 11. The State Fire Marshal shall make an annual report to the Governor of the Commonwealth, on or before the first day of February of each year, setting forth a full report of the work of his office during the preceding calendar year, including such statistics as he may desire to include therein. He shall also recommend in his report such legislation, if any, as in his judgment may be desirable to further carry out the purpose of this law for the prevention of fire waste; such recommendation shall include a draft of an act providing for the adoption of a standard municipal building code, and a draft of an act providing for a standard fire insurance policy, for the Commonwealth of Pennsylvania, which drafts shall be reported on or before January first, one thousand nine hundred and thirteen.

Section 12. The assistants of the State Fire Marshal, not receiving a salary for the performance of public duties, shall receive, upon the

audit of the State Fire Marshal, fifty cents for each report of each separate fire reported to the State Fire Marshal under this act; and, in addition thereto, shall be paid the sum of fifteen cents for each mile traveled to the place of fire; and, in the discretion of the State Fire Marshal, where an investigation has been made, a sum not to exceed three (3) dollars for each day's service spent in such investigation.

Section 13. All penalties or forfeitures, collected under the provisions of this act shall be paid into the treasury of this Commonwealth.

Section 14. This act shall not be construed to repeal an act of the General Assembly, entitled "An act to provide for the appointment of a fire marshal for Allegheny County," approved the eighteenth day of April, Anno Domini one thousand eight hundred and sixty-four (Pamphlet Laws, four hundred sixty-five). It is further hereby declared to be the true intention and meaning of this act, that the same shall not apply or be operative in any city or county of this Commonwealth where, under existing laws, whether special or general, the position and duties of a fire marshal are provided for.

Section 15. All acts or parts of acts inconsistent herewith are hereby repealed.

APPROVED—The 3d day of June, A. D. 1911.

(P. L. 658).

JOHN K. TENER.

Regulations for Having, Using, Storage, Sale and Keeping of Gasoline, Naphtha, Kerosene and Similar Petroleum Products within the State of Pennsylvania.

Section 1. No person, firm or corporation shall have, keep on sale, or store in any place or building, within the State of Pennsylvania, any gasoline or similar petroleum products, under whatsoever name designated, unless the following regulations are complied with.

Section 2. No gasoline, naphtha, benzine, benzole, camphene or burning fluids, or compounds containing over twenty-five (25) per cent. of the above named substances, for store manufacturing purposes or private use, shall be stored above the cellar or basement of any building, except the same be contained in hard wood barrels, metallic vessels or tanks, of a kind and construction to be approved by the State Fire Marshal.

Section 3. All tanks for the storage of gasoline, naphtha or similar like products shall be placed outside of buildings and under ground, not less than two (2) feet below the surface, entirely surrounded by earth well tamped in place with a base or foundation of concrete, brick or stone at least six inches thick. Kerosene oil for supplying retail trade may be placed outside of buildings in approved tanks with pump attachment, and must be kept securely locked when not in actual use.

Section 4. If impracticable to locate tanks outside of buildings, they may be buried three (3) feet below level of basement or cellar floor, imbedded in earth well tamped and covered by at least three (3) feet of earth with a base or foundation of concrete or stone at least six (6) inches thick, or the tank may be installed in an approved non-combustible building or vault. Where tank is placed in a non-combustible building, earth must be placed on both sides and rear end, and be brought to top of the tank, and the earth be well tamped. Where tank is placed in a vault, the tank shall be covered with earth, well tamped to make it solid.

Section 5. Tanks placed above ground at distributing stations must be located as far as possible from other buildings or combustible material and shall be provided with a one (1) inch or larger vent pipe, same to be connected to the top of the tank and be provided with an approved vacuum and pressure valve.

Section 6. All tanks of a capacity of one hundred and seventy-five (175) gallons, or under, shall be made of at least sixteen (16) gauge galvanized steel.

From 175 to 340 gallons 14 gauge
From 340 to 560 gallons 12 gauge
From 560 to 1600 gallons 10 gauge
From 1600 to 2500 gallons 8 gauge

Where it is proposed to install one or more tanks of a capacity of 1,000 gallons or over, plans and specifications showing the location of tanks, thickness and weight of metal, method of construction, thickness of and material to be used for foundation or walls must be submitted to the State Fire Marshal for approval before the installation is made. All of these tanks shall be welded or riveted and in every respect substantially constructed and galvanized or painted with not less than two (2) coats of rust resisting material on the outside thereof. Where steel is specified, iron or other metal of approved quality and thickness may be substituted.

Section 7. All tanks located within ten (10) feet of any building, within a building or in a vault shall be provided with a vent pipe, the same to be not less than one (1) inch in diameter, and be connected to the top of the tank. If tank is located within a building, the vent pipe must be carried up at least four (4) feet above the roof of said building and terminate in an approved top.

Section 8. Filler pipes, must be made of approved iron or steel pipe one and one-half (1½) inches or more in diameter, entering at the top of tank. The upper end of said filler pipe, must terminate in an approved cap or plug securely locked. Where tanks are located under the building the filler pipe must run to the outside of the building and terminate on an approved cap or plug, same to be securely locked. When filler pipe runs to side walk, it must terminate in an approved cap or plug securely locked and be protected by a metal filler box, the same to be flush with the side-walk; the cover to said filler box to be securely locked. Filler pipes in alley ways shall terminate in an approved cap or plug securely locked and extending above the ground level close to the building.

Section 9. Pipes connecting the tank with discharge point in building must be of approved iron or steel and must enter top of tank and extend to a point not less than three (3) inches from the bottom; all piping in connection with apparatus to be so arranged that it can be drained back to supply tank. Pipe must be buried at least ten (10) inches below the surface and any exposed portion thereof must be thoroughly protected. This connection pipe must not be lower at any point than where same leaves the tank.

Section 10. Where gasoline, naphtha or other like inflammable fluids are drawn inside of any building the lighting shall be where practicable, by incandescent electric lights only. Where impracticable, to provide electric light, a protected light of approved pattern must be used. No fires or open lights will be allowed when drawing gasoline, naphtha or other like inflammable fluids from tanks or when filling tanks or reservoirs of automobiles.

Section 11. No smoking shall be allowed in any room in which volatile or similar inflammable liquids are kept or used.

Section 12. Gasoline, naphtha or other like products used for cleaning or other like purposes shall be used or handled in the open air, or in a separate well ventilated building in which no fires or lights other than electric lights are used.

Section 13. (a) No single tank of a greater capacity than one thousand (1,000) gallons shall be installed on the premises of any private or public garage. (b) Gasoline or other inflammable liquids shall not be kept in any garage or building used as such, except in reservoirs of automobiles or when stored or handled in safety containers of metal construction or in portable filling tanks. (c) When safety containers are used for storage or handling of gasoline or other inflammable liquids, not more than five (5) gallons shall be kept in any building. (d) When portable steel tanks are used the tanks must be of a capacity not to exceed fifty (50) gallons, and must be constructed of at least three-sixteenth (3-16) inch tank steel or other approved metal and construction. Portable tanks shall be supported on wheels equipped with rubber, leather, fibre or other approved tires. The tank must be provided with an approved all metal pump or other approved device with hose attachment and hose not to exceed ten (10) feet in length. The pump must be equipped with approved ground shut off cock where hose is attached to pump, also with approved ground key shut off cock at end of hose. Pump must be equipped with a lock and must be locked when not in use.

Section 14. There shall be constantly kept and maintained convenient receptacles filled with sand, provided with hand scoop for use in absorbing waste oils on floor and for fire extinguishing purposes. Fire extinguishers of an approved type must also be provided and placed where they can be quickly and easily obtained when required

Section 15. No gasoline, benzine or naphtha shall be used for washing automobiles or parts of antomobiles. This regulation shall not be construed to prohibit the use of kerosene oil.

Section 16. Failure to comply with any of the provisions of these regulations will subject the offender to a penalty of twenty-five ($25) dollars for the first offence; fifty dollars ($50) for the second offence, and a fine of fifty ($50) dollars or imprisonment not to exceed one year at the discretion of the court for any subsequent offence.

Section 17. Petroleum products with a flash test between fifty (50) degrees and eighty (80) degrees Fahrenheit, as determined by the Tagliabue open cup method, for testing kerosene oils shall in so far as storage and use, be classed as gasoline or naphtha, unless specifications for storage are submitted to the State Fire Marshal and approved by him.

Section 18. These regulations shall not be construed to apply to tanks of manufacturers at their refineries or at their various distributing stations, excepting as herein set forth.

Section 19. The Act of June 10, 1911, P. L. page 869, provides that no refined petroleum oil for illuminating purposes shall be manufactured, sold or offered for sale by any person, firm or corporation within the Commonwealth of Pennsylvania, having a fire test lower than one hundred and ten (110) degrees, Tagliabue open cup test, etc., and any person or persons, firm or corporation, or any officer or officers thereof, violating the provisions of this act shall upon conviction be sentenced to pay a fine not exceeding five hundred (500) dollars, or undergo an imprisonment not exceeding six (6) months, at the discretion of the court.

WARNING AGAINST USING CALCIUM CHLORIDE FOR DEPRESSING FREEZING POINT OF SODA SOLUTIONS OF CHEMICAL EXTINGUISHERS.

An experiment recently made by Underwriters' Laboratories demonstrated the undesirability of adding calcium chloride to the soda solution of hand fire extinguishers. Calcium chloride when added to water in fire pails, barrels, etc., is an effective agent for reducing the freezing point. The normal charge of the soda and acid hand fire extinguisher, however, has sodium bicarbonate in solution. The addition of calcium chloride to this soda solution at once results in a reaction producing calcium carbonate, an insoluble, carbon dioxide gas and salt in solution.

In the experiment referred to, 5 pounds of calcium chloride were added to the normal soda solution and an attempt made to discharge the extinguisher. The reaction of the sulphuric acid with the salt solution and the calcium carbonate precipitate was not sufficiently

rapid to build up pressure within the extinguisher, the indicator of a pressure gage connected to the cap remaining at zero through a period of over 90 seconds while the liquid contents were draining through the hose.

The lesson from this experiment obviously is—do not add calcium chloride to the bicarbonate of soda solution of a fire extinguisher. To do so renders the extinguisher inoperative.—*From National Protection Association News Letter.*

MONTHLY BULLETIN

"MAKE PENNSYLVANIA FIREPROOF"

Department

OF THE

State Fire Marshal

OF

Pennsylvania

OFFICE—ROOM 166
Capitol Building, Harrisburg, Pa.
G. CHAL. PORT, State Fire Marshal

VOL. V JUNE 1918 No. 27

P 38.32
1:3

DISGRACEFUL RECORD

Three-fourths of the fires that occur are caused by carelessness—2,000 lives are lost and 6,000 persons injured each year. We spend $4.15 per minute for fire waste. Fire Prevention will stop this needless drain on the Nation's resources, which, at this time is more valuable than at any period in the country's history, and it is a patriotic duty devolving upon every man, woman and child to conserve, in so far as possible, the resources which are so urgently needed for the maintenance of those fighting for our liberty and independence from autocracy's endeavors of enslavement.

VOL. V. No. 27

Monthly Bulletin

Department

OF THE

State Fire Marshal

OF

Pennsylvania

G. CHAL. PORT, State Fire Marshal

BULLETIN OF INFORMATION FOR THE PUBLIC

JUNE, 1918

HARRISBURG, PENNA.:
J. L. L. KUHN, PRINTER TO THE COMMONWEALTH
1918.

FOURTH OF JULY, 1918

The Fourth of July is a day inspiring to the hearts of all true Americans, and is celebrated in commemoration of the great struggle engaged in by our forefathers, for liberty and freedom from tyranny. To-day our country with it's Allies is engaged in a gigantic conflict against a foe whose every act shows an absolute disregard of humanity, and whose governing power is autocratic in the extreme, opposing with an iron hand personal liberty and democracy. "Might instead of Right" is their motto, and under this banner every atrocious act that can be conceived is being inflicted upon the innocent, under the guise of Kultur and efficiency.

Under the circumstances and existing conditions it becomes the imperative duty of every citizen, every stay-at-home, individually and collectively, now and during the continuance of the struggle for supremacy going on "over there," to refrain from wastefulness of resources, or in permitting a chance for the committing of overt acts on the part of enemies of the country, and particularly on the day usually celebrated by the firing of guns, use of firecrackers and pyrotechnic display, extra precaution must be taken to prevent acts of disloyalty by evilly disposed persons, who might use the occasion under the guise of patriotism to destroy by fire property and necessities, disguising their purpose under the pretense of a display of fireworks, to cover their nefarious intentions. We are admonished by the Government, and rightfully so, to conserve all resources, and while the prohibition of the use of fireworks may be looked upon by manufacturers and dealers in these commodities as a drastic curtailment of their rights, the benefit derived from no fires from this source will be of much greater value to the country at large than the monetary loss they may sustain from restraint of trade. In recognition of the damage from fire caused by fireworks, "a safe and sane Fourth" has for a number of years been advocated by the State Fire Marshal, Insurance Companies, Civic bodies and Municipal Government throughout the United States, and the public has reluctantly been convinced of the danger to life and property from the use of fireworks.

It is in view of these facts and with the object of avoiding calamities on this one great day; and the removing of temptation beyond the reach of those who are probably awaiting this particular time to ply their acts of destruction, that the State Fire Marshal urgently requests assistance in the absolute prohibition of the sale of fireworks throughout the State, and if complied with means:

First: Avoidance of accidents which have in the past been numerous and in many instances fatal.

Second: Saving of powder, explosives and munitions of all kinds, needed for the use of our forces and Allies.

Third: The removal of temptation from fanatics or evilly disposed persons to take advantage of the day and occasion to comit overt acts that may cause loss of innocent lives and the destruction of valuable property, under the impression that they are aiding the causes of their native land.

Fourth: Conserving resources essentially necessary for vigorous prosecution and successful termination of the war.

Many city and borough officials, recognizing the possible danger from allowing the promiscuous use of fireworks, have presented the proposition "No Fireworks" to the citizens of their communities for an opinion as to whether the use of fireworks should be permitted this was followed by an ordinance being presented to borough or cit Councils, and approved, making it unlawful to sell, expose or offer for sale, discharge or set off or explode fireworks of any kind, as per copy of ordinance following:

ORDINANCE

To protect life and property in (City, Borough) by prohibiting the sale, storage and use of fireworks, the substances intended for pyrotechnical display, and providing penalties.

Section 1. Be it enacted by the Council of (City, Borough), of ..... in session met, and it is hereby enacted by the authority of the same, that it shall be unlawful for any person, or co-partnership, or association, or corporation within the (City, Borough), of ..... from the date of the approval of this ordinance to sell, expose or offer for sale, discharge or fire, or use or set off, or explode any rocket, torpedo, roman-candle, squib, firecrackers, sparkler, or other fireworks of any kind, or any substance or explosive intended for pyrotechnical display.

Section 2. Any person, or co-partnership, or association, or corporation that shall violate the provisions of this ordinance shall be guilty of a misdemeanor, and on convection thereof shall be sentenced to pay a fine not exceeding ..... dollars, or to be imprisoned not more than..... months, or both or either, within the discretion of the Court.

Section 3. All ordinances or parts of ordinances inconsistent herewith are hereby repealed.

Will you co-operate, making Fourth of July safe and sane, with plenty of true patriotism manifested by the conserving of resources to meet emergencies, rather than by the expenditure of forces that result merely in noise and momentary satisfaction, without adding pleasure, but rather detracting from it, owing to the absence of those who have answered the call and are now serving their country for you and for humanity's sake?

WHAT IS ECONOMY?

There seems to be an idea generally prevalent at this time that the war necessitates the exercise of undue economy in municipal affairs. It goes without saying that unnecessary expenditures should be cut down wherever possible, but there is no valid reason why appropriations for vital civic improvements should be curtailed—facts indicate quite the contrary—appropriations should be increased. Particularly is this true with regard to our fire departments, for there was never a time when it was so essential that their efficiency be maintained at the highest possible point.

A table prepared by the National Board of Fire Underwriters gives the story of the damage done by incendiarism since April 1, last. The value of the munition factories, grain elevators, stock yards, cotton, marine properties, and other industries essential to the war efficiency of the country, which have been destroyed as a result of known incendiary or suspicious origin, is more than $60,000,000.

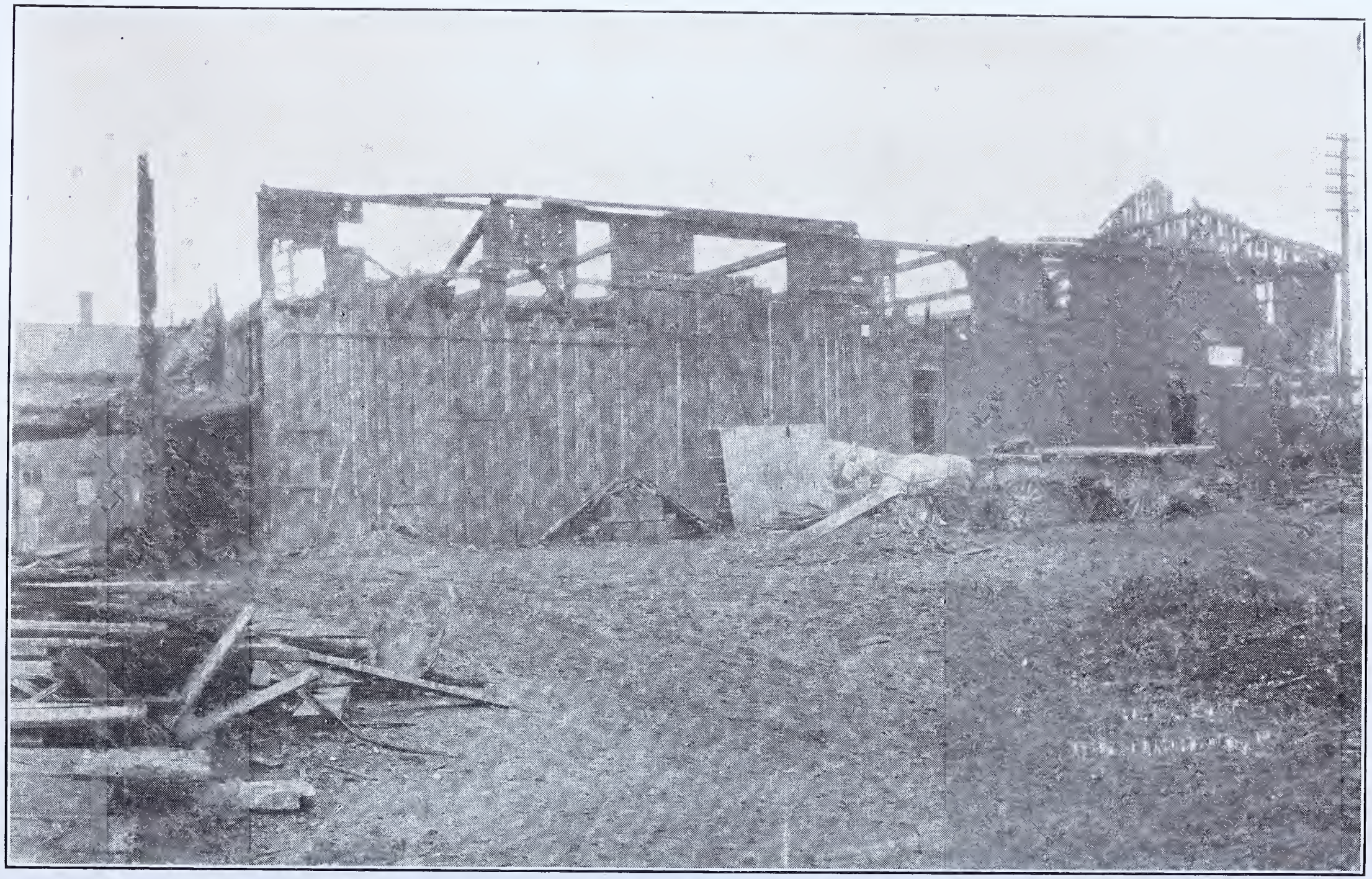
The table shows that the enemy has been busy in every part of the country. In eleven instances the damage has equalled or exceeded $1,000,000, the most disastrous of the conflagrations being the de-

struction of piers and war supplies at Baltimore last October, valued at $3,500,000. The grain destroyed has totaled since we went to war more than $6,000,000; piers and marine property over $5,000,000; oil and oil products more than $6,000,000; timber lands and lumber yards more than $6,400,000. All of these totals refer only to fires where the loss was $100,000 or more.

The total fire losses in 1917 reached the appalling figure of $267,000,000, the greatest of any year in the history of the United States, except 1906, when the great San Francisco fire swelled the total to over $400,000,000.

There is not a great industry, the continuance of which is essential to the war efficiency of the United States, which has not suffered from the activities of the incendiary.

Disgraceful and dangerous fire hazards existing most anywhere in Pennsylvania. Have you any such in your community? If so, report them to the State Fire Marshal, and insist on conditions being remedied.



Disgraceful and dangerous fire hazards existing most anywhere in Pennsylvania. Have you any such in your community? If so, report them to the State Fire Marshal, and insist on conditions being remedied.

NUMBER OF FIRES SHOWING ESTIMATED VALUE OF PROPERTY, ESTIMATED LOSS AND AMOUNT OF INSURANCE, JANUARY 1918.

(Exclusive of Philadelphia and Pittsburgh)

Counties.	Number of fires.	Estimated value.	Estimated loss.	Amount of insurance,
Adams,	1	$1,500	$1,500	$500
Allegheny,	104	1,452,877	218,334	1,186,730
Armstrong,	7	90,500	83,660	60,900
Beaver,	11	70,000	3,364	32,000
Bedford,	1	250	250	25
Berks,	29	377,650	24,293	184,475
Blair,	19	136,700	1,620	85,820
Bradford,	10	51,350	5,251	31,650
Bucks,	6	13,825	4,992	9,000
Butler,	8	141,150	6,158	22,400
Cambria,	30	191,300	3,856	50,375
Carbon,	6	27,700	24,875	9,450
Centre,	3	18,200	2,150	11,700
Chester,	9	46,750	7,962	27,450
Clarion,	2	1,700	876	400
Clearfield,	6	95,445	45,761	20,700
Clinton,	4	19,300	5,570	7,400
Columbia,	6	20,400	577	13,700
Crawford,	12	62,500	4,582	24,900
Cumberland,	1	7,300	300	2,000
Dauphin,	5	286,075	142,655	104,800
Delaware,	8	416,600	310,342	173,200
Elk,	2	17,604	9,604	6,800
Erie,	28	841,550	11,587	544,900
Fayette,	11	122,800	4,884	53,550
Forest,	1	3,100	2,575	1,800
Franklin,	7	35,925	27,407	17,700
Fulton,	1	650	650	325
Greene,	1	4,800	270	2,000
Huntingdon,	4	28,045	25,350	9,150
Indiana,	1	3,500	3,500	2,200
Jefferson,	4	44,500	12,655	19,900
Juniata,	1	150	150	----------
Lackawanna,	45	575,108	132,041	296,162
Lancaster,	13	66,452	10,197	48,295
Lawrence,	17	145,100	30,161	90,850
Lebanon,	4	12,610	378	8,100
Lehigh,	7	31,900	1,057	13,325
Luzerne,	55	802,959	79,822	682,050
Lycoming,	19	363,100	48,456	158,750
McKean,	3	98,300	97,205	76,350
Mercer,	15	112,680	39,250	37,300
Mifflin,	1	800	800	600
Monroe,	2	3,000	950	2,600
Montgomery,	13	132,185	12,627	71,100
Northampton,	7	84,527	8,810	39,400
Northumberland,	6	30,900	2,900	33,830
Schuylkill,	13	114,950	2,714	47,462
Snyder,	1	650	650	500
Somerset,	2	3,650	2,175	----------
Susquehanna,	7	53,200	37,550	31,200
Tioga,	1	550	352	400

NUMBER OF FIRES SHOWING ESTIMATED VALUE OF PROPERTY, ESTIMATED LOSS AND AMOUNT OF INSURANCE, JANUARY, 1918—Concluded.

Counties.	Number of fires.	Estimated value.	Estimated loss.	Amount of insurance.
Venango,	9	104,000	2,963	36,600
Warren,	11	379,725	77,162	318,200
Washington,	19	70,800	18,869	26,900
Wayne,	9	43,000	24,050	16,500
Westmoreland,	14	343,550	208,365	261,710
York,	15	109,895	3,819	83,438
Total,	657	$8,264,287	$1,858,681	$5,101,697

MATERIALS USED IN CONSTRUCTION OF BUILDINGS DESTROYED OR DAMAGED BY FIRE, JANUARY, 1918.

(Exclusive of Philadelphia and Pittsburgh)

Construction.	Number of fires.
Wood,	478
Brick,	132
Stone,	7
Concrete,	13
Wood and brick,	8
Wood and stone,	6
Brick and stone,	2
Other materials,	11
Total,	657

CAUSES OF FIRES AND LOSS INCURRED, JANUARY 1918.

(Exclusive of Philadelphia and Pittsburgh)

Causes.	Number of fires.	Loss.
Adjoining,	47	$44,381
Bonfire—rubbish,	4	951
Candle,	4	200
Cigar—cigarette,	9	7,490
Clothing near stove,	13	24,263
Coal gas explosion,	1	470
Defective flues,	106	98,514
Electric wiring,	13	27,957
Electric iron,	1	1,300
Explosion,	2	40
Explosion of water-back,	5	927
Film ignition,	1	10
Friction,	3	2,815
Gas explosion,	8	17,296
Gas jet,	8	4,640
Gas leak,	11	2,027
Gas plate,	1	15
Gas stove,	15	26,344
Gasoline engine,	1	3,800
Gasoline explosion,	6	1,200
Heater on sprinkler,	1	73,000
Hot ashes,	11	3,429
Hot coals,	7	1,165
Hot grease,	3	55
Hot metal,	1	4,000
Incendiary,	8	23,655
Lamps,	5	846
Lanterns,	3	2,130
Matches,	27	157,382
Matches—children,	9	1,537
Matches—mice,	1	15
Miscellaneous,	1	100
Oil line leak,	1	225
Oil stove,	23	11,181
Open fire,	8	643
Open light,	14	8,735
Overheated boiler,	2	27
Overheated core oven,	1	450
Overheated furnace,	12	127,965
Short circuit,	3	1,300
Silk and oil in exhaust pipe,	1	100
Smoking,	2	1,255
Smoking in bed,	1	35
Smoking meat,	1	75
Sparks,	5	372
Sparks—chimney,	16	4,988
Sparks—cupola,	1	12,600
Sparks—forge,	1	400
Sparks—locomotive,	2	35
Spontaneous combustion,	7	1,683
Starting fire with kerosene,	1	400
Steam pipes,	2	25
Stove and stovepipe,	47	40,320
Suspicious,	7	120,450
Thawing pipes,	59	18,837
Torch,	2	200
Undetermined,	96	974,139
Xmas tree,	6	287
Total,	657	$1,858,681

CLASS OF STRUCTURES DESTROYED OR DAMAGED BY FIRE, JANUARY 1918.

(Exclusive of Philadelphia and Pittsburgh)

Counties.	Dwellings.	Barns.	Stores.	Stores and dwellings.	Manufactories.	Garages.	Other buildings.	Automobiles.	Fires reported.
Adams,					1				1
Allegheny,	65		12	13	6	1	7		104
Armstrong,	4			1	2				7
Beaver,	5		2		2		2		11
Bedford,	1								1
Berks,	16		1	1	4		6	1	29
Blair,	14		1	1	1		1	1	19
Bradford,	7	1			1		1		10
Bucks,	3				2		1		6
Butler,	6				2				8
Cambria,	23		2	2	2	1			30
Carbon,	4	2							6
Centre,	2			1					3
Chester,	6			1	1	1			9
Clarion,	2								2
Clearfield,	3			1	1		1		6
Clinton,	3			1					4
Columbia,	5				1				6
Crawford,	9				1		2		12
Cumberland,							1		1
Dauphin,	1		1		1		2		5
Delaware,	4	2			2				8
Elk,	1			1					2
Erie,	16		3	1	1	4	3		28
Fayette,	7	1			1		2		11
Forest,	1								1
Franklin,	4	1			2				7
Fulton,	1								1
Greene,	1								1
Huntingdon,		1	1			1	1		4
Indiana,	1								1
Jefferson,	2			1		1			4
Juniata,					1				1
Lackawanna,	30	2	6	1			6		45
Lancaster,	3	3	2	3	1		1		13
Lawrence,	5		7	3	1		1		17
Lebanon,	2		1		1				4
Lehigh,	5				1		1		7
Luzerne,	33		6	8	7	1			55
Lycoming,	10		2		4		2	1	19
McKean,	1				2				3
Mercer,	10		2	2			1		15
Mifflin,							1		1
Monroe,	2								2
Montgomery,	7	2	2	1	1				13
Northampton,	1		1	5					7
Northumberland,	4	1		1					6
Schuylkill,	10		1				2		13
Snyder,	1								1
Somerset,	1						1		2
Susquehanna,	2			3	1		1		7
Tioga,	1								1

CLASS OF STRUCTURES DESTROYED OR DAMAGED BY FIRE, JANUARY, 1918—Concluded.

Counties.	Dwellings.	Barns.	Stores.	Stores and dwellings.	Manufactories.	Garages.	Other buildings.	Automobiles.	Fires reported.
Venango,	4			1	1	1	2		9
Warren,	7	1	1		1		1		11
Washington,	15		2				2		19
Wayne,	6	1	1				1		9
Westmoreland,	7	2	2	1			2		14
York,	9		2	1			3		15
Total,	393	20	61	55	56	11	58	3	657

Disgraceful and dangerous fire hazards existing most anywhere in Pennsylvania. Have you any such in your community? If so, report them to the State Fire Marshal, and insist on conditions being remedied.

Disgraceful and dangerous fire hazards existing most anywhere in Pennsylvania. Have you any such in your community? If so, report them to the State Fire Marshal, and insist on conditions being remedied.

THREE CONSTRUCTION DANGER POINTS

At least 50 per cent. of the number of dwelling house fires and probably 75 per cent. of the total loss from dwelling house fires which will occur for all dwellings erected in the future could be prevented by taking particular care in watching three parts of the construction. To prevent a greater number of dwelling house fires than occurs from any other cause, the roof should be of fire-resistive construction. To prevent dwelling house fires causing the greatest amount of destruction the chimney should be built correctly. To eliminate the condition that spreads more dwelling house fires than anything else, cut-offs should be introduced in all partitions, floor construction and outside wall construction.

No one but the builder can be held responsible for non-fire resistive roof construction. The builder selects the covering and its quality as a fire resistive agent probably will not be very much affected by the way in which it is placed by the contractor. Roofing is exposed, can be easily inspected and contractors do not shirk specifications in this part of the building. Except in cities where the wood shingle roof is prohibited, any one building a house at this time who has a shingle roof fire in the future has only himself to hold at fault.

Criminally Careless Contracts

Contractors are without doubt as honest as any other class of workmen but there can be little question but that shoddy and incomplete work is found more frequently in the construction of chimneys than in any other part of a house. Poor mortar may be used. One instead of two courses of brick may be placed. The mortaring may be done carelessly. The hollow tile which extends out above the top of the chimney may be but three feet long. Cases are discovered where chimney builders pull one piece of hollow tile up after them as they work to leave the impression with the owner that the chimney is being made according to specifications which require the use of the interior hollow tile section. The sure way to get a safe chimney built is to employ an honest contractor and then be on the ground when the work is done.

Open access to the flames in walls, partitions and floor construction spreads a dwelling house fire immediately to all parts of the building. A comment on a dwelling house fire occurring March 5th last in

Augusta, Maine, saying that "the fire went all through the partitions of the house and through the roof," is one that is made all too frequently. A little care and foresight when the dwelling is constructed by placing cut-offs in all these space where fire might spread will eliminate the chief cause of fire spreading inside dwelling houses.

EXAMINE YOUR CHIMNEY

A crack in your chimney is a sure sign that you are going to move. If you dream of smelling smoke it is a sign you are asleep and had better wake up. To see a paper hanger papering over a flue hole indicates an impending loss. It is bad luck to look in a dark closet with a match. If you can see your shadow from an old lamp while filling a gasoline stove it indicates a crowd of people coming to your house. When the wind moans it is extremely bad luck to burn trash near the house. If you smell gas or gasoline and look for it with a light it foretells that you are about to start on a long journey. Even if your house and furniture are "covered by insurance" it is extremely unlucky to have them burn on Friday the 13th.—South Construction News.

FARM BUILDING ROOFS

A special bulletin on fire prevention and fire fighting on the farm, Farmers' Bulletin No. 904, issued in January of this year, by the United States Department of Agriculture, states that "from a fire protection standpoint it is unfortunate that nearly all farm buildings are covered by shingle roofs. A dry shingle roof is one of the most inflammable things imaginable, but on account of their durability, light weight and low cost, shingles will probably continue to be used indefinitely for roofing farm buildings. However, when a new building is being constructed or a new roof is being put on an old one, it is at least worth while to consider the use of fireproof roofing. With the growing scarcity and high price of lumber, fireproof substitutes for shingles are becoming more numerous and available. When shingles are exposed to the weather for a short time they take on a rough, fuzzy appearance, due to the fibers on the surface being loosened. The sun from without and the heat from within the building combine to extract every trace of moisture from them. If the cinder or spark happens to strike the roof, the roughened surface tends to hold it there, and it is likely to set the roof on fire before it goes out."

AMERICA'S CARELESSNESS

A study of the economics of fire destruction leads more and more inevitably to the conclusion that American carelessness is the chief fire cause. There never has been a year when this fact was so condemnatory as at present. Engaged in the mightiest struggle of all history, when national efficiency is called upon to an unprecedented degree, the folly of maintaining our traditional rate of unnecessary fire destruction becomes almost tragic. A great army of our own young men is preparing to enter the battle line in France, the huge forces of our allies are becoming more and more dependent upon our resources, and the very populations of European countries are threatened with starvation unless we can send them food.

American fires destroy our supplies, imperil our resources, and weaken our energies to an appalling degree, while back of American fire losses always stands that greatest contributing factor—American carelessness. The subject, then, is no longer one of mere economics—it concerns the future of humanity itself.

Every American must cease to think of the war as an occurrence three thousand miles away. He must realize that it includes his country, his community, his place of business, and his home. Failure to recognize this fact can no longer be ascribed to ignorance. Failure to apply a prompt corrective to his old-time habit of indifference to fire hazard, to his congenital ingrained American carelessness, will discredit his claim longer to be considered a patriotic citizen of America.—Bulletin National Board.

PREVENTION THE REMEDY

According to the Journal of Commerce, the losses by fire in the United States and Canada during the month of January, 1918, aggregated $37,575,100, an increase of over a million dollars over the record of the same month last year, which was $36,431,770. The January losses this year were notable because, while there were no general fires involving a large number of risks and none of a conflagration nature, the number of individual fires causing loss of $10,000 or over exceeded the record of any previous month. There were no less than 494 such fires, and of these some 107 destroyed property

to the amount of or in excess of $100,000. The severe climatic conditions prevailing during the greater part of the month were largely responsible for the excessive losses, but incendiarism and carelessness, in connection with industrial activity, were accountable for no small percentage.

MONTHLY BULLETIN

"MAKE PENNSYLVANIA FIREPROOF"

Department

OF THE

State Fire Marshal

OF

Pennsylvania

OFFICE—ROOM 166
Capitol Building, Harrisburg, Pa.
G. CHAL. PORT, State Fire Marshal

VOL. V JULY 1918 No. 28

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BOY SCOUTS CAN AID IN FIRE PREVENTION

The Boy Scouts of Pennsylvania can render splendid service along Fire Prevention lines by making inspections of fire hazards in the community in which they live, and reporting them to the proper officials for correction. This would materially aid in the conservation of resources, which are now wasted through carelessness, and would be a lesson of such importance as worthy of being followed by everyone.

VOL. V. No. 28

Monthly Bulletin

Department

OF THE

State Fire Marshal

OF

Pennsylvania

G. CHAL. PORT, State Fire Marshal

BULLETIN OF INFORMATION FOR THE PUBLIC

JULY, 1918

HARRISBURG, PENNA.:
J. L. L. KUHN, PRINTER TO THE COMMONWEALTH
1918.

PROTECTION AGAINST LIGHTNING.

For the first time in the history of the American fire prevention movement, a state fire marshal has ordered properties protected against lightning damage, by issuing a blanket order compelling every telephone company doing business in the State, to equip telepone lines entering certain occupancies with lightning arresters and adequate fuses. This was done as a war measure, and the order applies to sixteen classes of plants, among which are warehouses, flour mills, grain elevators, wholesale provision and grocery companies, cold storage plants, canning factories, storage and preserving plants; grain, hay and provision storage; bakeries and food repositories. One of the principal purposes of the order was to protect the food supply, since serious fires had occurred as a result of the lack of proper protection against lightning.

The object was accomplished because it dealt with comparatively few companies, which were found to be loyally co-operating to guard the nation's food supplies and other vital necessities; yet it was necessary to deal separately with each individual property affected by the order. The farmer is among those so situated that he must be depended upon by state and federal governments to protect his grain supplies; and it should not be overlooked by him that the lightning damage to food supplies, due to a lack of lightning rods on farm buildings, is at this time a very serious matter and should be given immediate attention. Records of the Indiana Fire Marshal Department for the four years, 1913-1916, show nearly twice as many lightning fires destroying barns as those destroying all other buildings combined. Sixty-one per cent. of lightning fires in these four years were barn fires. In considering these figures in relation to fire caused by lightning, it should be remembered that a small percentage of loss occurred where buildings were equipped with lightning rods, properly installed.

DWELLING HOUSE HAZARDS.

How To Prevent Fires In The Home.

Fires in the Home are easier to prevent than to extinguish.

Unlike factory fires, many of which are due to causes inseparable from manufacturing, practically every dwelling house fire is due to carelessness or neglect. Especial care should be taken in the home to prevent fires from starting, because when they do start there is seldom a man about to extinguish them. Where women and defenseless children are housed, every human consideration demands the utmost vigilance on the part of those responsible for their welfare.

If the suggestions in this bulletin are understood and heeded, many a life may be saved and many a home successfully guarded against destruction by fire.

1. HOUSEKEEPING. The attic, cellar and all closets and outbuildings should be cleaned at least once every year, and all useless material and rubbish removed therefrom and burned. These unnecessary accumulations are dangerous, and are the causes of many fires. Store all remaining material neatly so that a clear passage may be had between or around boxes, cases, barrels, etc.

Metal waste baskets, only, should be used.

In storing clothing, first remove all matches or other material from the pockets and then carefully fold and neatly place away. Do not hang clothes where they will be near hot chimneys.

Do not go into closets with lighted matches or candles.

Care should be exercised in burning leaves, dead grass or rubbish. Keep these fires a safe distance from buildings, and never light them on windy days.

Do not bank houses in the winter with straw, excelsior or other readily inflammable material; a chimney spark or carelessly thrown match may ignite it.

2. MATCHES. Use only safety matches, and make it impossible for children to get them. Always place burned matches in metal receptacles; never throw them on the floor or into waste baskets.

3. SMOKING. To smoke in garages, in bed, or around stables containing hay is deliberately to invite disaster.

4. LIGHTNING HAZARDS. Swinging gas brackets are dangerous, and never should be allowed near curtains or dressers. Fix them rigidly so as to avoid contact with combustible material. If open gas flames are within two feet of ceiling, see that ceiling is protected with sheet metal or asbestos board. Tips for gas lights are inexpensive, while a light used with a broken tip or without a tip often causes fire. Don't use pendant gas mantles unless protected underneath with wire gauze. Hot carbon deposits form and drop from mantles of gas arc lamps. A globe closed at the bottom is safer.

Examine the gas meter, see that it is securely set and well connected, and is not located near open lights or furnaces. An outside gas shut-off valve to service-connection is desirable. Never look for gas leaks with a match, candle or lamp.

Where a dwelling is lighted by a gasoline vapor or acetylene gas system the rules governing the safe use of these illuminants should be carefully studied and rigidly observed.

Illuminating oils should be kept in closed metal cans in a safe place, and lamps should never be filled except by daylight. Kerosene lamps should be kept clean and properly trimmed. If allowed to burn all night, select one that contains much more than enough oil. A dirty lamp containing only a little oil is unsafe. Lamps with broad bases are preferable. Care must be taken not to place them near inflammable material, under shelves, nor to set or leave lamps or lanterns in stables or other places where animals may upset them. Never allow little children to carry lamps, and never set a lamp on a table cover. Children may pull them over.

Do not use paper or decorative shades of inflammable material on lamps or electric light bulbs.

Electricity is a hidden hazard, and extends througtout the wire system in a building. Be sure it is safely installed, and have the system carefully inspected and passed upon by a recognized electrical inspector. Many fires are due to defective electric wiring. Do not destroy the insulation on electric light, fan or heater wires by hanging them on hooks or nails. Immediately repair or replace any defective switches, fuses, sockets, etc. A fuse is the "safety valve" of an electric system, and should never be replaced by one of larger size or any other material.

Before attaching electric irons, vacuum cleaners, cooking utensils or any other electrical device to your lighting circuits or sockets,

consult an electrician as to the ability of your wiring to withstand this additional load. Electric wiring systems are designed to carry only a certain current, and if overloaded may cause fires. Numerous fires have been caused by leaving electric irons with the current on. Disconnect them immediately when through using.

5. HEATING HAZARDS. Coal and kindling should preferably be kept within a brick or stone enclosure and not stored against frame partitions nor directly against walls of boiler or furnace rooms.

Never put kindling into the oven.

Deposit all ashes in metal receptacles or upon non-combustible floors, removing same from building at least once a week. Barrels or boxes should not be used for storing or carrying ashes unless they are constructed entirely of metal.

Before starting fires in the autumn, thoroughly clean out furnace and flues thereto, also fireplaces. Carefully examine them and immediately repair or replace any defective part. Don't burn out chimneys and flues by making an especially hot fire with paper, etc. Main chimneys should be cleaned from roof to cellar, and all stovepipes where entering them provided with metal collar and rigidly fixed in place. Replace any tile, crock or flimsy flues and chimneys with substantial brick chimneys. Long lengths of metal stovepipe are dangerous.

At least an eighteen-inch clearance is necessary between top and sides of furnace, breeching and flues from ceiling, partitions and other combustible material. Repair at once any broken plaster in ceiling or partition walls.

Do not have steam pipes in contact with wood work or near inflammable materials, and do not permit rubbish to accumulate behind steam coils or radiators.

Gas stoves or other heaters should have a ventilating flue to carry off the burned gas fumes which are poisonous. Do not use portable rubber or similar tubing, but connect all gas stoves rigidly and securely with gas pipe. Examine valves and see that they are tight and do not leak.

Never permit a stove of any kind to be set up without stone, brick, concrete or metal protection underneath, or near a partition without a metal shield and air space.

Never run stovepipes through partitions, or paste paper over flue holes.

All types of open fireplaces or stoves, especially where there are children, should be provided with substantial spark screens.

Don't throw waste paper on an open fire.

Every period of extreme cold results in numerous fires due to forcing the heating apparatus. Keep this in mind next winter. Watch your heater.

Keep hoods and pipes of kitchen range free from grease and lint by cleaning with hot water and lye.

Do not hang clothes or bags near stoves, or on stovepipes or steam pipes.

Do not allow your family to jeopardize their lives by pouring kerosene onto the kithen fire to hurry it along.

Extreme care should be used with alcohol or kerosene stoves. They should always be filled in the daylight and away from any open flame.

6. GASOLINE AND EXPLOSIVES. Do not use patent cleaning fluids, polish or chemicals unless you known something about them. Many of these contain explosives and oils of a dangerous character.

Do all gasoline cleaning in the open air, and caution the members of the family to refrain from using gasoline or like volatiles in the house. This material should not be kept in the house nor in glass bottles.

Beware of rags or cloths used in oiling floors or cleaniig or polishing furniture. They may ignite spontaneously. Be sure and burn them after using. Leaving them about for only a few hours may mean a fire.

7. FIRE PROTECTION. One or more approved chemical fire extinguishers should be placed in every home. They must be protected against freezing.

It is well to see that the garden hose may be attached to the kitchen faucet.

8. THE FAMILY GARAGE. Never allow open flame lights in a garage. Run the auto outside when filling the tank so that gasoline vapors will dissipate.

Do not keep quantities of gasoline or calcium carbide inside of garage or dwelling. An approved underground storage tank is the safest method for keeping gasoline.

A metal waste can should be located at a convenient place outside the garage for all waste and greasy rags. Burn these every week.

It is unsafe to use sawdust or shavings to absorb grease and oil in a garage. If the floor is wooden, scrub it occasionally with hot water and lye.

The use of gasoline for cleaning parts of the automobile in the garage is a dangerous thing.

The garage should not be heated by means of stove or open fire of any kind, unless same is isolated in another room so that the gasoline vapors of garage cannot possibly get to it. Gasoline vapor travels.

Keep an approved fire extinguisher and a pail of sand in garage. Water thrown on burning gasoline merely serves to spread it.

9. IN GENERAL. Have the telephone number of the nearest fire station on a special card at your telephone.

Familiarize the family with the operation of the nearest fire alarm box. After operating a fire alarm, stay near it to direct the fireman to the fire. Every minute is significant.

Don't fail to notify the chief of the fire department of anything you may see that is dangerous or liable to cause fire. NATIONAL FIRE PROTECTION ASSOCIATION BULLETIN.

RATS.

The United States Bureau of Health estimates that rats alone are responsible for the destruction of grain, food stuffs, and other property amounting annually to $250,000,000, and requiring the labor of 200,000 men in the effort to repair the injury done by these pests.

Besides property loss, they are also carriers of diseases which cause many deaths. Housewives should use strict care in preventing homes from becoming harbors for rats. Rats migrate from one infected district to another and crawl from house to house, often by means of telephone or electric wires, and have been observed to climb rain spouting and porch posts, entering houses otherwise guarded against them.

It is estimated that there are 50,000,000 rats in the cities, and three times that number in the rural districts; and that each rat is re-

sponsible for the destruction of five dollars ($5) worth of property annually—an unnecessary tax, if proper attention is given to their extinction.

Many of the mysterious fires that have occurred in the past, are now believed to have been due to rats' gnawing the insulation from electric light wires. From examination of wires where fires were reported as having occurred from defect of wiring, the above statement is (in a measure) borne out. Prevent loss by fire from this cause by rat-proofing your homes; closing all gaps in board fences; closing all possible entrances through or about foundations; placing wire screens over cellar windows, and use such other precautions as may be necessary to prevent fire and destruction, not only in homes but in all other buildings.

Swat the rat and prevent fire!

MATCH STATISTICS.

Every year there are many children burned to death and thousands of buildings destroyed because people are careless with matches. As an example of this, during the year 1913 there were 562 fires in one state caused by careless use of matches with a loss of $500,000 to property and the death of forty children. The 100,000,000 people in the United States use as many matches as the 1,000,000,000 in the rest of the world.

The head of the match is made of phosphorus, chlorate of potash, rosin whiting and powdered flint, held together by glue. The rubbing of the flint makes enough heat to fire the phosphorus, the chlorate of potash liberates the oxygen with an explosion and great heat. This heat fires the rosin and then the paraffin in which the stick is soaked fires the stick.

Records at hand show that 10,000 matches are scratched every second during the entire year in America; 95 per cent. by smokers and 5 per cent. for lighting fires and other purposes. This is an astonishing record and one which can hardly be realized by the people not familiar with the causes of fire. Following this line of thought

and taking sixteen hours as the average time for man to work, or, in other words, stay awake, this record would be increased to 14,250 matches per second.

In lighting a match for the purpose of smoking, an average of fifteen seconds' time is consumed, so that 213,759 men are holding matches continuously. Placing the average value of their time at 30 cents per hour, we have a money loss of $1,068.70 per minute, or $68,122 per hour, or $512,976 per day of eight hours.

If these matches were all safety matches in boxes of fifty, there would be 16,415,000 boxes consumed every twenty-four hours, or 189 boxes per second.

This is an average of eight matches scratched every twenty-four hours by every man, woman and child in the United States.

The day will come when we will not be permitted to be careless of these matches or blind to the ethics of fire protection. Individual responsibility will be so great that personal indifference will be pushed aside and the causes of fire protection and prevention given their proper hearing.

NUMBER OF FIRES REPORTED, SHOWING VALUE OF PROPERTY, LOSS AND AMOUNT OF INSURANCE.

FEBRUARY, 1918.

(Exclusive of Philadelphia and Pittsburgh.)

Counties.	Number of Fires.	Estimated Value.	Estimated Value.	Amount of Insurance.
Adams,	5	$21,725	$4,873	$13,250
Allegheny,	38	194,623	80,113	120,700
Armstrong,	11	72,756	39,716	55,100
Beaver,	13	264,250	152,122	120,300
Bedford,	3	1,950	6	1,950
Berks,	44	168,835	13,982	93,325
Blair,	20	77,400	17,798	46,650
Bradford,	3	1,225	20	1,100
Bucks,	12	27,576	6,468	23,700
Butler,	6	30,400	2,195	11,100
Cambria,	20	305,470	20,295	184,540
Cameron,	1	1,500	500	0
Carbon,	3	5,133	330	3,100
Centre,	5	139,900	121,198	8,375
Chester,	22	106,100	15,934	35,200
Clarion,	3	42,000	23	21,600
Clearfield,	9	11,328	5,455	10,450
Clinton,	4	5,700	893	2,400
Columbia,	8	93,950	61,635	56,230
Crawford,	14	463,768	28,720	234,075
Cumberland,	8	15,450	5,079	11,350
Dauphin,	16	558,175	436,998	24,783
Delaware,	14	242,725	67,518	155,875
Elk,	2	38,450	15,900	24,000
Erie,	41	309,945	7,998	224,325
Fayette,	9	38,550	9,578	25,950
Forest,	2	2,600	1,730	1,100
Franklin,	4	15,770	5,333	10,800
Greene,	2	3,800	3,360	0
Huntingdon,	1	800	44	300
Indiana,	6	28,381	17,454	17,210
Jefferson,	3	5,250	1,654	2,600
Juniata,	3	43,950	15,050	15,500
Lackawanna,	53	425,130	79,570	215,250
Lancaster,	34	242,745	45,224	193,380
Lawrence,	15	60,211	12,145	27,100
Lebanon,	1	40,000	1,625	40,000
Lehigh,	7	19,700	650	6,400
Luzerne,	29	121,116	31,778	80,900
Lycoming,	22	237,000	57,090	179,300
McKean,	13	92,238	22,414	59,511
Mercer,	26	676,189	49,403	219,500
Mifflin,	2	3,000	68	2,800
Monroe,	2	5,800	5,010	2,500
Montgomery,	19	55,500	8,264	44,925
Montour,	1	1,900	3	1,200
Northampton,	6	58,650	4,871	23,250
Northumberland,	8	29,195	5,282	13,750
Pike,	2	4,650	4,500	200
Potter,	2	42,457	43,457	27,050
Schuylkill,	10	96,760	12,020	15,400
Snyder,	1	600	46	400
Somerset,	1	2,300	2,200	1,500
Susquehanna,	6	32,400	15,151	11,450
Tioga,	2	4,600	253	2,150
Union,	1	80	20	27
Venango,	6	13,250	6,928	7,500
Warren,	14	53,036	35,381	34,149
Washington,	16	167,515	33,123	90,100
Wayne,	1	600	200	300
Westmoreland,	20	103,450	39,125	59,600
Wyoming,	2	1,700	1,700	700
York,	19	161,422	23,189	90,905
Total,	706	$3,055,125	$1,767,882	$2,981,905

CLASS OF STRUCTURES DESTROYED OR DAMAGED BY FIRE FEBRUARY 1918.

(Exclusive of Philadelphia and Pittsburgh.)

Counties.	Dwellings.	Barns.	Stores.	Stores and dwellings.	Manufactories.	Garages.	Other buildings.	Automobiles.	Fires reported.
Adams,	2	1	1	1	0	0	0	0	5
Allegheny,	31	0	0	4	2	0	1	0	38
Armstrong,	6	1	2	0	6	0	2	0	11
Beaver,	6	0	1	2	4	0	0	0	13
Bedford,	3	0	0	0	0	0	0	0	3
Berks,	30	1	2	2	4	1	4	0	44
Blair,	13	0	5	1	1	0	0	0	20
Bedford,	2	0	0	0	0	0	1	0	3
Bucks,	10	1	0	0	0	0	1	0	12
Butler,	5	1	0	0	0	0	0	0	6
Cambria,	17	0	5	1	1	0	5	1	30
Cameron,	0	0	0	0	1	0	0	0	1
Carbon,	2	0	0	0	0	0	1	0	3
Centre,	2	1	0	0	0	2	0	0	5
Chester,	18	1	0	1	1	0	1	0	22
Clarion,	2	0	0	0	0	0	1	0	3
Clearfield,	6	1	1	0	0	0	1	0	9
Clinton,	3	0	0	0	0	0	1	0	4
Columbia,	3	1	1	1	1	0	1	0	8
Crawford,	11	0	0	0	1	0	2	0	14
Cumberland,	7	0	1	0	0	0	0	0	8
Dauphin,	9	1	1	1	1	0	3	0	16
Delaware,	10	1	0	0	3	0	0	0	14
Elk,	1	0	1	0	0	0	0	0	2
Erie,	26	1	2	3	4	0	5	0	41
Fayette,	8	1	0	0	0	0	0	0	9
Forest,	2	0	0	0	0	0	0	0	2
Franklin,	4	0	0	0	0	0	0	0	4
Greene,	2	0	0	0	0	0	0	0	2
Huntingdon,	0	0	0	0	0	0	1	0	1
Indiana,	3	1	0	0	1	0	1	0	6
Jefferson,	2	0	0	0	0	0	1	0	3
Juniata,	1	0	1	0	0	0	1	0	3
Lackawanna,	35	2	6	3	1	0	6	0	53
Lancaster,	16	5	4	2	3	2	0	2	34
Lawrence,	11	1	0	0	0	0	3	0	15
Lebanon,	1	0	0	0	0	0	0	0	1
Lehigh,	6	0	0	0	0	0	1	0	7
Luzerne,	20	1	2	0	2	0	3	1	29
Lycoming,	16	0	4	1	1	0	0	0	22
McKean,	10	1	0	0	2	0	0	0	13
Mercer,	12	0	2	3	3	0	6	0	26
Mifflin,	1	0	0	0	0	0	1	0	2
Monroe,	1	1	0	0	0	0	0	0	2
Montgomery,	10	3	4	0	0	0	2	0	19
Montour,	1	0	0	0	0	0	0	0	1
Northampton,	5	1	0	0	0	0	0	0	6
Northumberland,	4	1	1	0	1	0	1	0	8
Pike,	0	0	0	0	0	1	1	0	2
Potter,	1	1	0	0	0	0	0	0	2
Schuylkill,	5	0	0	1	1	1	2	0	10
Snyder,	1	0	0	0	0	0	0	0	1
Somerset,	1	0	0	0	0	0	0	0	1
Susquehanna,	3	0	0	2	0	0	1	0	6
Tioga,	2	0	0	0	0	0	0	0	2
Union,	0	0	0	0	0	0	1	0	1
Venango,	4	0	0	0	1	1	0	0	6
Warren,	8	0	3	0	1	0	1	1	14
Washington,	11	0	4	1	0	0	0	0	16
Wayne,	0	0	0	0	0	1	6	0	1
Westmoreland,	10	2	3	2	0	1	2	0	20
Wyoming,	2	0	0	0	0	0	0	0	2
York,	7	2	1	0	3	1	3	2	19
Total,	451	35	58	32	44	11	68	7	706

MATERIALS USED IN CONSTRUCTION OF BUILDINGS DESTROYED OR DAMAGED BY FIRE, FEBRUARY, 1918.

(Exclusive of Philadelphia and Pittsburgh.)

Construction.	*Number of Fires.*
Wood,	509
Brick,	149
Stone,	10
Concrete,	11
Wood and Brick,	3
Wood and Stone,	11
Brick and Stone,	1
Other Materials,	12
Total,	706

CAUSES OF FIRES AND LOSS INCURRED, FEBRUARY, 1918.

(Exclusive of Philadelphia and Pittsburgh.)

Causes.	Number of Fires.	Loss.
Adjoining,	53	$150,779
Alcohol leak,	1	2,500
Blanket on hot auto,	1	50
Baker's oven (overheated),	1	150
Back fire,	5	800
Cradle,	5	879
Cigar and cigarette,	10	5,635
Celluloid comb on stove,	1	95
Clothing near stove,	11	3,822
Defective fireplace,	13	4,296
Defective flue,	101	71,073
Electric wiring (defective),	15	15,552
Explosion,	4	22,577
Explosion, dynamite,	1	250
Explosion, gas,	5	5,859
Explosion, gasoline,	3	870
Explosion, water front,	8	3,200
Furnace (overheated or defective),	12	29,516
Gas iron,	1	90
Gas jet,	7	926
Gas leak,	12	6,503
Gas stove,	12	8,936
Hot air pipe,	1	25
Hot ashes,	8	6,734
Hot coals,	5	171
Hot grease,	4	1,212
Hot metal,	2	50
Hot flat iron in bed,	1	90
Incendiary,	9	93,295
Lamp,	10	481
Lantern,	4	9,484
Lightning,	3	139
Matches,	18	2,298
Matches, children,	19	4,740
Matches, mice,	2	3,505
Miscellaneous,	2	116
Oil ignition,	2	113
Oil stove,	12	5,048
Open fire,	1	18,000
Open light,	9	579
Range (wood in oven),	1	250
Rubbish (burning),	3	880
Short circuit,	1	6,010
Singeing machine,	1	1,900
Smoking,	1	250
Smoking in bed,	3	1,560
Smoking meat,	4	2,842
Sparks,	1	500
Sparks, Acetylene torch,	1	2,000
Sparks, flue,	33	7,182
Sparks, forge,	1	1,000
Sparks, friction,	2	3,123
Sparks, gasoline engine,	3	15,500
Sparks, locomotive,	6	485
Sparks, saw,	1	250
Sparks, smokestack,	2	19,638
Spontaneous combustion,	6	4,130
Steam pipe (rag on),	1	100
Stove and stovepipe,	60	40,580
Suspicious,	5	13,725
Thawing frozen pipes,	32	9,357
Torch,	2	1,450
Undetermined,	132	1,045,681
Water tank (overheated),	1	20
Total,	703	$1,767,882

Disgraceful and dangerous fire hazards existing most anywhere in Pennsylvania. Have you any such in your community? If so, report them to the State Fire Marshal, and insist on conditions being remedied.

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WASTEFULNESS.

President Wilson recently said: "This is the time for America to correct her unpardonable fault of Wastefulness and Extravagance. Let every man and every woman assume the duty of careful, provident use and expenditure as a public duty; as a dictate of patriotism which no one can now expect one to be excused or forgiven for ignoring." There is reason for this appeal. Never in the history of the country has the necessity for conservation of resource been more urgent than at the present, and no greater degree of Wastefulness can be attributed to any source than to that of destruction by fire from neglect and carelessness.

Fire is a preventable scourge. Each year there are destroyed by fire, one-half as many buildings in value, as erected; all waste unnecessary and preventable by attention to the stoppage of waste. Only recently a grain elevator was destroyed by fire, and sufficient wheat lost to make fifty million (50,000,000) loaves of bread; which would have supplied the army now with General Pershing in France, for five years and two months. Waste which should be avoided and can be, by giving more attention to the Prevention of Fires, in the end would mean conservation of every essential so imperatively necessary at this critical period.

The advancement and development of Fire Prevention is highly important in both the social and industrial life of the nation; and while necessary to maintain protective facilities, Fire Prevention will effectually reduce the unnecessary fires that are causing the sacrifice of life by reason of carelessness, indifference and neglect of citizens who forget what is due to their families, their neighbors or the community in which they live. Fire Prevention may be recognized as civic pride and progressiveness, and simply requires adherence to the principles of preservation and conservation. State and Municipal authorities should enact laws and ordinances that will place the responsibility upon those who wilfully jeopardize life and property by fire hazards.

Among the methods of Prevention of Fires, those which should be chiefly considered, are, Construction, Alteration, Repairs and Maintenance of Buildings; Demolition or Repair of Dilapidated Buildings constituting a menace to surrounding property and the endangering of life; Prohibition of Accumulation of Rubbish and Waste Material.

in and about premises, and regulating the burning thereof; Regulation of Storage of Gasoline and other petroleum products, explosives, etc.: Fixing Liability for Cost of Extinguishing a preventable fire, upon persons on whose premises fire occurs as a result of violation of a Fire Prevention regulation or ordinance.

The enactment of such Fire Prevention methods, and the strict enforcement of the same, would mean the elimination of fire hazards. This can be successfully accomplished by the organization of a Fire Prevention Bureau, under the direction of the Chief of the Fire Department (with the cooperation of the Building Inspector in so far as it relates to Construction, Alteration, Repair and Maintenance of Buildings) who shall appoint two or more members from each company, whose duty it shall be to make periodical inspections of all properties and premises in their respective districts, ordering the abatement of fire hazards. In localities not having fire departments, the citizens should form Fire Prevention Committees, and inspect all properties, recommending alterations, repairs, and removal of all hazards; and if the same be not complied with within a reasonable time, the State authorities should be appraised of the fact, and an order which carries with it a penalty for non-compliance, will be issued by the State Fire Marshal, for the remedy of the condition.

Get interested and busy in the interest of Conservation and Protection:

WHAT IT COSTS.

Putting the average cost at $7,500 a piece, America in a year burns up the value of 30,000 airplanes, and 30,000 airplanes would win the war; or, to put it in another way, the nation's fire bill, if it could be applied to their construction, would supply our Navy with one hundred and fifty destroyers, and such an added force would end the menace of the submarines.

The two-billion-dollar Liberty Loan carries an annual interest charge of $70,000,000, but the United States burns up each year enough property to pay interest upon more than three Liberty Loans.

In destitution in the bereaved homes of France are multitudes of the children of those who have given their lives upon the battle-field. Appeals have been made to American benevolence upon the basis of 10 cents per day per child to provide for their immediate necessities. Six million such little ones, or far more than the total number in need, could be supported for the cost of our senseless destruction.

An investment of $60,000 will equip a base hospital capable of caring for 500 sick or wounded. If American people would change their habits to those of carefulness, 3,600 such hospitals might be supplied by means of the money thus saved from fire destruction. This would approximate one to each half-mile on all European battle fronts.

GASOLINE ENGINE SAFETY.

These seemingly empty gasoline cans or tanks are probably more dangerous than those filled with gasoline. Usually the can will not be entirely emptied but will contain a little liquid gasoline that did not run out. This gasoline will vaporize, the vapor will mix with the air in the can, and the mixture may easily be explosive. When the can is being filled this mixture of gasoline vapor and air is forced out by the gasoline and may explode if it is ignited by a flame or spark near the opening.

Many engines are built with cavities or inclosed spaces in the crank case, base, or some other part; these may be full of gasoline vapors. Many men, when inspecting or making repairs with an open light, have been severely burned when these vapors have been ignited. To guard against such accidents all cavities should be blown out with compressed air or steam. If neither of these is available the cover should be removed, the vapors should be fanned out, and a lighted lamp or candle attached to a long stick should be passed around inside the cavities to burn out any vapors that may remain before the workmen puts his hands or face near them.

Unless an ample current of air at considerable velocity is passing, gasoline should not be used to clean oil and dirt off of an engine or other machinery. Even if there is sufficient air to sweep away the vapors as soon as they are given off, open lights should always be kept at a safe distance and on the intake side so that the vapor can not be carried to the light.

EXTINGUISHING GASOLINE FIRES.

If by any accident gasoline is ignited, never use water to extinguish the fire. A large quantity of water thrown on the fire with considerable force may possibly be effective, but is much more likely to spread the fire. Burning gasoline floats on water and thus spreads the blaze. The best method is to use a reliable chemical fire extinguisher. If none is at hand, the fire should be smothered with sand, or sawdust, or heavy cloths. Wherever gasoline is used or stored it is always well to have buckets of said on hand for emergencies.—Bureau of Mines, Department of the Interior.

MONTHLY BULLETIN

"MAKE PENNSYLVANIA FIREPROOF"

Department

OF THE

State Fire Marshal

OF

Pennsylvania

OFFICE—ROOM 166
Capitol Building, Harrisburg, Pa.
G. CHAL. PORT, State Fire Marshal

VOL. V AUGUST, 1918 No. 2

P20.32
v.5 Q.1

FIRE PREVENTION CAMPAIGN.

A Patriotic Duty of Every American is to PREVENT FIRE. America at war needs every ounce of her energy and resources. It is criminal to cause hazards; it is unpatriotic to neglect them. Here are some of the ways you can help:

1. Learn the factory rules and OBSERVE them.
2. If you discover a fire, give the alarm promptly. Do you know how to do this? Ask to be shown.
3. DON'T SMOKE where it is not permitted.
4. Never drop a lighted match, cigar or cigarette; be sure that it has no spark left before throwing it away.
5. Report suspicious strangers seen about the plant.
6. If you notice any unusual smoke, or any other accident, notify the proper person at once.
7. Carry your precautions into your own home; keep your house and premises free from rubbish and instruct others to do the same.
8. Where would YOUR job be if the plant wherein you are employed should burn?
9. HELP UNCLE SAM.
10. BE CAREFUL.

Vol. V. No. 29

Monthly Bulletin

Department

OF THE

State Fire Marshal

OF

Pennsylvania

G. CHAL. PORT, State Fire Marshal

BULLETIN OF INFORMATION FOR THE PUBLIC

AUGUST, 1918

HARRISBURG, PENNA.:
1918

FIRE PREVENTION DAY, SATURDAY, NOV. 2nd.

The following program and articles have been prepared and forwarded to those directed for the purpose of securing a concentrated observance of Fire Prevention Day, Saturday, November 2nd, and the continuance of the spirit of individual responsibility and co-operation at all times.

An urgent appeal is extended to you with the request that you give the matter your individual attention to arouse in your district the sentiment of personal liability that is required to make this campaign successful.

FIRE PREVENTION DAY PROGRAM.

1. Examination of premises by owners and occupants with the view of removing and properly disposing of waste accumulations, and immediately arranging for remedy or correction of fire hazards.
2. Short talks by employers to employes on the subject of Fire Prevention.
3. Observance of Fire Drills in institutions, factories, and other establishments.
4. Short talks in theatres and motion picture establishments on the subject of Fire Prevention.
5. Showing of slides in motion picture theatres briefly setting forth the co-operation necessary by the citizens.

School Exercises.

(To be observed Friday, Nov. 1st.)

1. Reading of the Governor's Proclamation for Fire Prevention Day.
2. Brief talks or discussions on Fire Prevention.
3. Observance of Fire Drills.

G. CHAL. PORT
State Fire Marshal

CHARLES D. WOLFE
Chief Assistant
J. WILLIAM MORGAN
First Deputy
WILLIAM F. TRAEGER
Special Deputy

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF THE FIRE MARSHAL
Harrisburg, Pa.

August 21st, 1918.

At the suggestion of the Hon. William C. McAdoo, Secretary of the United States Treasury, FIRE PREVENTION DAY has been postponed from Wednesday, October 9, 1918, to Saturday, November 2, 1918, so that it may not interfere with the Liberty Loan campaign in October. Fully appreciating the suggestion of Secretary McAdoo, we would be pleased to have your cooperation in withholding for the present any activities that may have been contemplated for this occasion so that everyone will be free to do their utmost during the Liberty Loan campaign.

Arrangements for Fire Prevention Day, Saturday, November 2, 1918, will be carried out as far as possible in line with the program sent out by this Department on August 1, and we would appreciate your cooperation in the movement, which you have already so generously shown, after the Liberty Loan campaign is ended. The school exercises for this occasion will be observed on Friday, November 1, in accordance with the original program.

Very truly yours,

G. CHAL. PORT,
State Fire Marshal.

G. CHAL. PORT
State Fire Marshal

CHARLES D. WOLFE
Chief Assistant
J. WILLIAM MORGAN
First Deputy
WILLIAM F. TRAEGER
Special Deputy

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF THE FIRE MARSHAL
Harrisburg, Pa.

August first, 1918.

Mayors and Burgesses:

Enclosed will be found a tentative draft of program, suggested for the observance of Fire Prevention Day, Saturday, November 2nd, which is sent you as a preparatory means of securing an effective and successful organization in Fire Prevention in your city.

Never before in the history of our country has the menace of fire been greater, and the preservation of resources, natural and otherwise, more necessary; and to those familiar with the economic relations of civic, commercial and industrial life, notwithstanding the effect upon the prosecution of the war, it is unnecessary to go into details with respect to the absolute necessity of checking this preventable menace.

The State Fire Marshal Department is engaged entirely in the preservation of property and resources in the State from destruction by fire, the removal and prevention of fire hazards, the vigorous prosecution and checking of incendiarism, and in other ways applying a remedial movement in the conservation work in connection with the U. S. Government. Invaluable service has been accomplished by this concentrated effort, but there is an unwarranted laxity existing in general which we are endeavoring to eliminate by arousing the citizens to their individual responsibility in the suppression of fire waste.

The program is self-explanatory, and we urgently solicit your influence and aid in advancing the movement in your community so that an organized observance may be in evidence on Fire Prevention Day, Saturday, November 2nd, which will carry with it a future responsibility of the citizens.

Our display posters are now being prepared, and will later be forwarded to you in such quantities as you may desire.

We again ask your cooperation in this matter, and shall be pleased to receive any comments or suggestions you may feel minded to express.

Very truly yours,

G. CHAL. PORT,
State Fire Marshal.

G. CHAL. PORT
State Fire Marshal

CHARLES D. WOLFE
Chief Assistant

J. WILLIAM MORGAN
First Deputy

WILLIAM F. TRAEGER
Special Deputy

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF THE FIRE MARSHAL
Harrisburg, Pa.

August first, 1918.

Chamber of Commerce and Boards of Trade:

Enclosed will be found a tentative draft of program, suggested for the observance of Fire Prevention Day, Saturday November 2nd, which is sent you as a preparatory means of securing an effective and successful organization in Fire Prevention in your city.

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The program is self-explanatory, and we urgently solicit your cooperation with the Chief Executive of your city in advancing the movement in your community so that an organized observance may be in evidence on Fire Prevention Day, Saturday, November 2nd, which will carry with it a future responsibility of the citizens.

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Very truly yours,

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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF THE FIRE MARSHAL
Harrisburg, Pa.

August first, 1918.

To the Editor:

Enclosed will be found a tentative draft of program, suggested for the observance of Fire Prevention Day, Saturday, November 2nd, which is sent you as a preparatory means of securing an effective and successful organization in Fire Prevention in every district in the State.

May we not solicit the aid of your valuable press in bringing this matter to the attention of the public, and otherwise cooperating with the Chief Executive of your city, and the various progressive organizations in advocating the necessity of individual responsibility of the citizens in suppressing the unwarranted fire waste? Your cooperation will undoubtedly result in the recognition of Fire Prevention that is so absolutely essential at this critical time.

Very truly yours,

G. CHAL. PORT,
State Fire Marshal.

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State Fire Marshal

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Chief Assistant
J. WILLIAM MORGAN
First Deputy
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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF THE FIRE MARSHAL
Harrisburg, Pa.

August first, 1918.

County and District School Superintendents:

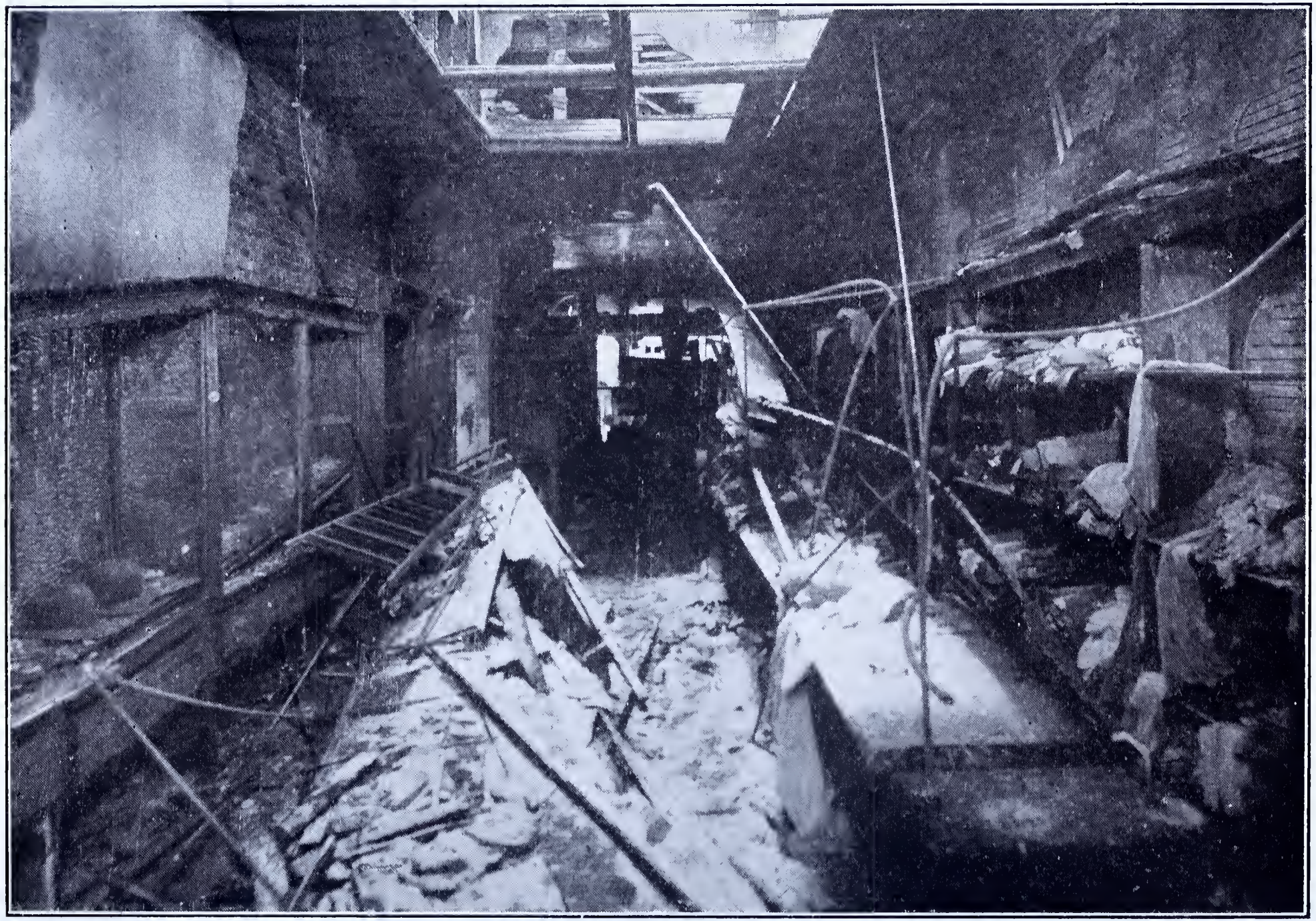
Enclosed will be found a tentative draft of program, suggested for the observance of Fire Prevention Day, Saturday November 2nd, which is sent you as a preparatory means of securing an effective and successful organization in Fire Prevention in your district.

May we not solicit your cooperation in having a part of the program observed in the various schools in your district so that the younger element may obtain an interest in Fire Prevention, and otherwise cooperate with the Chief Executive of your city in successfully advancing this important movement?

We feel certain that great interest and beneficial results will be obtained by introducing Fire Prevention in your schools at this time.

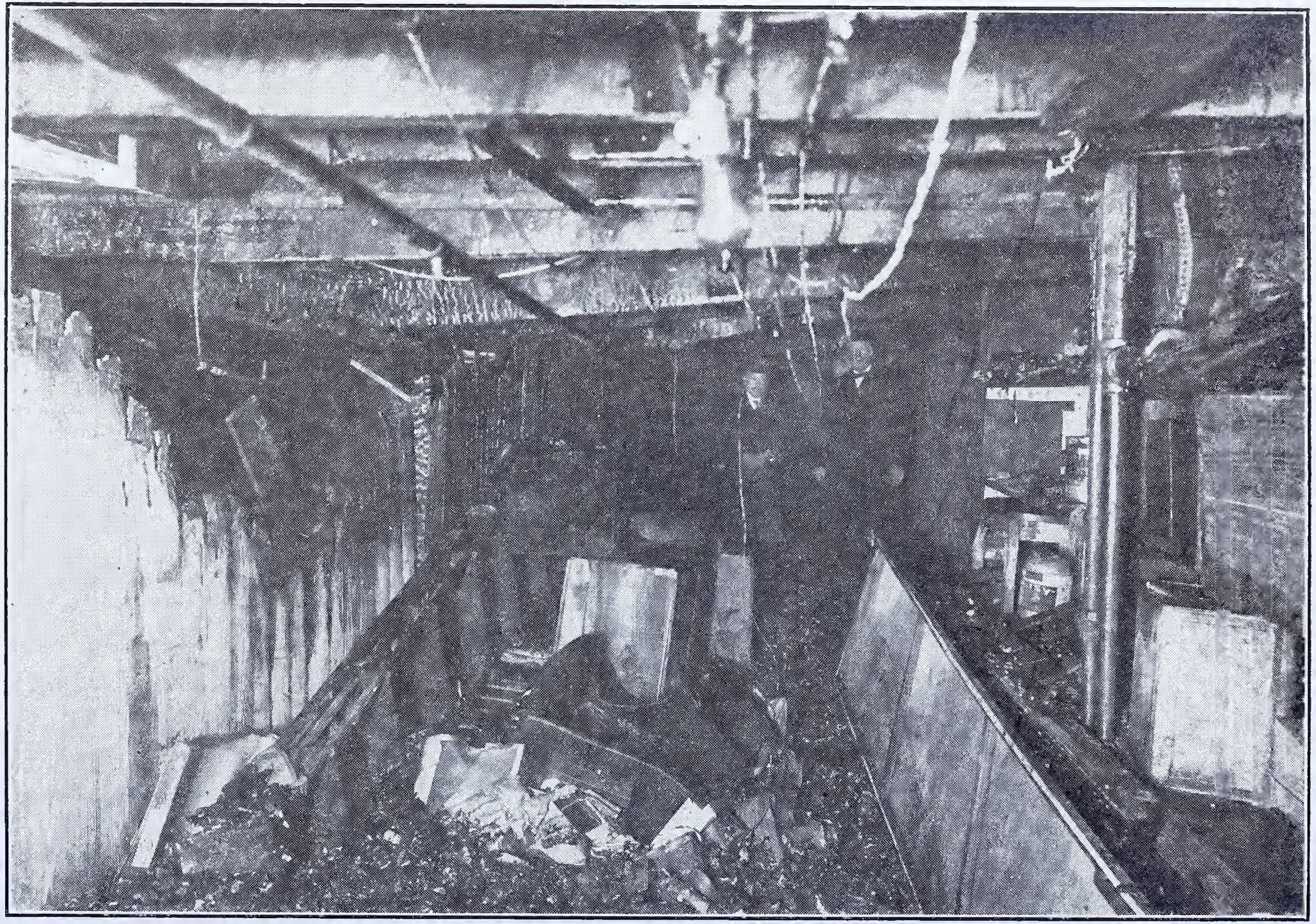
Very truly yours,

G. CHAL. PORT,
State Fire Marshal.



Showing the Result of Incendiarism.

"The Arsonist is Like Copperhead Snake—Strikes Blindly in the Dark."



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Showing the Result of Incendiarism.

"The Arsonist is Like Copperhead Snake—Strikes Blindly in the Dark."

FIRE ON THE FARM HELPS THE KAISER.

Agricultural reports indicate that never in the history of the country has there been such intensive farming, as at the present time, and this notwithstanding the shortage of labor. It being estimated that not less than 100,000 acres additional land is being cultivated, and that the production of wheat alone will amount to approximately 1,000,000,000 bushels, while the corn crop will exceed all previous records. These main crops together with all other products of the soil must be safeguarded against the possibility of loss from fire. The season is at hand when barns, granaries and storehouses will contain the greatest amount of food supplies, and it is also the time when they are most liable to destruction by fire.

Farmers are the largest handlers of food supplies, upon whom the Government depends entirely without supervision by inspectors to guard their holdings against losses by fire. In view of the supreme importance of particularly guarding this season's stored crops, as the destruction or spoilage of food supplies through fire will be looked upon as a National misfortune, and besides the personal loss of the owner, will reflect discredit for failure to properly protect it against loss.

Among the many sources of fire in rural districts that should be strictly guarded against are: lightning, spontaneous combustion, carelessness with matches, sparks from chimney, traction engines, locomotives and incendiarism. Protection against loss by lightning is assured by the erection of properly installed lightning rods. Carefulness will protect against the others, with the exception of incendiarism, which must particularly at this time be guarded against, by guarding property against entering, and strictly investigating the business of every stranger who come on premises. Incendiarism is one of the weapons used by the Kaiser, whose agents are everywhere, and use every effort to destroy food and material necessary for the prosecution of the war for democracy.

Use the utmost care to conserve the result of your seasons labor. Keep all buildings and surroundings clean, and reduce the cause of a possible disastrous fire.

Use care at threshing time. See that engine used is removed a safe distance from buildings. If a wood or coal burning engine is used, see that it has a first class spark arrester properly placed, and

kept in good order. If an oil burning engine is used, do not allow oil to be stored in the building; keep it outside and use care in handling it.

Be sure all chaff or waste is removed from around thresher, and that no oily waste is left scattered around.

Preventive measures carried out will mean the saving of buildings and crops. Use same precaution to prevent fire, as you would if you expected one. Be prepared!

Put up notices and see that they are complied with.

Forbid smoking in or near barns or other buildings, hay or straw stacks.

Forbid going into barns or other buildings withan open light.

Burn all rubbish, but do not do it near buildings. See that fire is entirely out before leaving.

Forbid the keeping of matches in other than metallic boxes, and have them placed out of the reach of children. Use only safety matches.

Forbid the keeping of automobiles, or other engines or gasoline in barns. Put them in separate buildings made of galvanized iron, stone or brick.

Forbid the use of lamp or lantern when filling the tank of automobile or engine.

Keep at least six (6) buckets of water in passageway of barn. Mark "For Fire Purposes Only," and see that they are always kept filled.

Keep fire extinguishers both in the house and barn.

Keep a ladder of sufficient length hanging on the side of the barn for emergency and have foot holds placed on roof of barn.

Electric wires in house and barn should be frequently inspected.

Build a cistern near barn with a good force pump and hose attached.

If you have no fire fighting force near you, form one among your neighbors, and don't hesitate to call them when services are needed, nor to promptly respond when they call you.

Fires cause every man to struggle harder for a living by compelling him to spend for his neighbors' waste.

Prepare for the prevention of fire. This you owe to your Country, your family and neighbor. Awake to your own interest and become active in the work of Conservation.

FIRE PROTECTION IN TOWNSHIPS.

The advent of the motor driven fire apparatus has opened up a field of usefulness which, under the old method of horse drawn apparatus, was impossible; and even to suggest to the smaller towns or boroughs, having horse-drawn apparatus, that they lend their assistance to their country brethren in their trouble, while perhaps received with a willingness to comply, yet under the circumstances it was necessary to reluctantly refuse to do so. This is now changed and if co-operation be established between localities having motorized apparatus and the surrounding country, taking in a radius of from five to ten miles, there is no reason why protection should not be readily afforded.

Co-operation should be started by a meeting of the town people and those in the designed territory, and suitable provisions made that certain portions of the expenses of maintenance be borne by those who desire protection.

The road supervisors should be included in this meeting and arrangement, and induced to give especial attention to condition of the roads and bridges in each district in which such protective measures are considered, for depending upon the condition of the roads and bridges rests the promptness of responding to the call for help.

This leads to the question which is agitating the entire State, "good roads," and it is time that the fire departments, who have by their enterprise and hard work succeeded in acquiring up-to-date apparatus, lend their aid to their less fortunate neighbors in the prevention of and protection against fire; and at the same time it is the duty of those desiring this aid to insist that the roads and bridges in their respective districts be so made and kept that regardless of weather, or other conditions, they will be assured at all times when assistance may be required that it will be forthcoming without delay or possible accident owing to road conditions. This question, although new in general, has already been agitated in Berks County and has met with a response that will mean in the near future an opening of the question as applied to the entire State. In one instance a call was made from a small hamlet, fourteen miles from a city, having but recently motorized their apparatus, and in thirty minutes from time of call two apparatus had responded and were in action, and in a short time after arrival the fire was under control. This was possible owing to the good condition of the roads and bridges and there is no reason why the same assistance should not

be accorded to all localities not equipped and depending largely on the liberality of those more fortunate and in a position to respond when assistance is called for.

The supervisors of roads should see that roads and bridges are kept at all times in first-class condition, permitting the safe traveling over them regardless of other difficulties. This is a question of home safety and it's due to the up-to-date men and women to give this movement serious thought and call together those whose property is without protection and immediately make arrangements with the nearest place having motorized apparatus to respond when most needed. In return for such services, which are costly in upkeep of apparatus and in many instances risky and inconvenient to those who willingly respond to the call of their fellowmen, there should be liberal financial arrangements made to contribute a share in the upkeep, and a positive insistence on the part of the taxpayer that supervisors do their part in keeping roads in first-class condition, permitting the safe carrying of the heaviest apparatus.

Give this consideration and get busy in the interest of Fire Protection and Fire Prevention in your homes.

PROTECTION AGAINST LOSS BY LIGHTNING.

Authorities who have made a careful study into the protective influence of the Lightning Rod are as one in determining the absolute fact that it does prevent loss from that source. Such evidence as is available indicates that they reduce the fire hazards from lightning by from 80 to 90 per cent. in the case of barns. Experience has shown that rods of most any kind give a greater or less degree of protection, but to obtain the maximum degree of protection, standard equipment should be used. Structures that are especially liable to fire by lightning are barns, ice houses, elevators and oil tanks. The preservation of all at this time when every resource must be conserved is essentially important, and there should be absolutely no hesitancy on the part of owners of farm buildings, grain elevators and storage warehouses, or manufacturers to immediately take advantage of this protective agency, and at once thoroughly equip their buildings with lightning rods. Get in touch with the nearest dealer in lightning rods. Obtain from him a demonstration of its practicability and usefulness, and at once protect your buildings. It will mean a reduction of insurance rates, and you will be helping in the Conservation of resources, which are needed in the successful prosecution of the war.

Don't be one of the back numbers whose failure to take advantage of protection suffered a part of the $8,000,000 annual toll from lightning.

Don't take a chance and allow your property to be unprotected.

Have your buildings equipped with lightning rods at once and help Uncle Sam's boys who are depending on you for food.

RURAL FIRE PROTECTION NO LONGER IMPRACTICABLE.

The advancement in fire protection for cities and large towns in the past few years has been great, but for the smaller towns and rural districts very little has been done until quite recently.

A very large percentage of our people do not live within the limits of fire protection of the towns or cities and a fire often means complete destruction of the residence as well as the outbuildings and stored crops.

Horse-drawn apparatus from the cities plainly cannot cover any large amount of this territory owing to the distances involved and the limit of equine endurance. In these days of universal telephones the alarm can be given and auto apparatus make quick response over considerable territory. The combination chemical and hose wagon of the city department is, however, of little use beyond the reach of water mains, and the big water pumping engine with its ability to throw enormous volumes of water is too heavy for country roads and of too great a capacity for the water supply in the rural districts. In addition to these facts, the city officials often object seriously to their apparatus leaving because the city is unprotected in its absence and on account of the danger of disabling the apparatus on the soft, slippery roads. It therefore devolves upon the rural districts to provide their own protection.

The small country town in these rural districts gets most of its living from the farmer, and this small town by itself finds a hard problem to get an efficient fire equipment. The hand engine and the small two-wheeled chemical have been more or less successfully supplemented in some cases by the elevated tank water system. This fire equipment, however, covers only a comparatively small area.

A light auto fire equipment, combining a chemical and pumping engine and hose wagon, has recently been brought out which admirably fills the requirements for the small town and is amply able to protect a considerable section of the surrounding country as well.

If the small town and the rural district can unite in the purchase of this equipment the benefit will be mutual and the cost very reasonable to all concerned. The rural population can thus be reasonably sure that a telephone call will find the town fire department equipped and ready to serve them promptly.

Engines now on the market seem especially adapted for this service. The cost is inconsiderable, especially when the extent of the protected territory is considered. Its foundation is a well known make of automobile, admittedly the most generally understood and used car in the country; the one for which supplies and repairs can be most readily and economically obtained. Carried on this machine is an efficient chemical equipment and a pumping outfit of sufficient capacity to handle any fires which might occur in the rural districts. One machine centrally located, would protect several villages and the surrounding country, while lightness would permit it to take water from sources unavailable to the heavy city apparatus. The very essence of successful fire fighting by a fire department is rapidity in getting to the fire with effective fire fighting machinery. All fires are the same size at the start, and the first five or ten minutes is the critical time which decides the amount of loss. This motor apparatus, which can be operated by anyone capable of driving an automobile, enables the fire department to get there quickly and to do effective fighting when they arrive. Simplicity and rapidity of one of these machines eliminates much of the ordinary confusion attendant at all fires. Its quick arrival with the chemical would often prevent a small fire from becoming a large one. It would fight forest and brush fires effectually, as well as the large fires in village and town.

This question of rural fire protection is being discussed over all the country. In Massachusetts and other New England states the old time town meetings, in which the voters of the town meet periodically and vote appropriations for various township needs, furnish a method of meeting this requirement. Many townships have availed themselves of it and many more are planning to do so.

New York state has a fire district law under which, on a petition signed by a number of the voters the authorities can set off any stated section of the country named in the petition as a fire district and the voters in this district can elect fire commissioners, issue bonds and purchase fire equipment to be located in the center of the district for the protection of the whole district. In this State

the rural population can subscribe to the purchase of fire apparatus to be located in a village and protect all subscribers. Other states are passing laws permitting the township authorities, on proper petition, to join with the villages and towns in purchasing apparatus for their mutual protection. The time is, no doubt, at hand when the rural districts can be well protected against fire.

Extracts from Fire Protection.

CO-OPERATION ESSENTIAL.

Co-operation is the combination of a number of persons to accomplish what could not be done individually. Persons combine their means or power for various purposes and in this manner bear each others burdens. This is so when the home or other property is destroyed by fire and the insurance companies are called upon to make reimbursement for the loss. In many instances only partial payment is made, which covers but a small portion of the loss sustained, and should full value be paid, you are still a loser, for no money can replace many precious articles destroyed and dear to you from association.

The standard of insurance is advancing and consequently premium rates are climbing, caused principally by the increasing loss from neglect and carelessness, faulty buildings and many equally preventable causes, and the only way of bringing about a reduction in the ever increasing rates is by the co-operation of individuals to obtain better and safer building construction, and removal of all hazards in the interest of preventing fires. By the enactment of a law to that effect, it should be the duty of every agent of an insurance company to assist in the prevention of fires by making a thorough inspection of every risk they write or renew. Such inspection should include besides general construction of property, the condition of chimney and flues, stoves, stovepipes, roof, lighting system, lightning rods or barns and other buildings, storage and use of gasoline in or about garages, or wherever automobiles or other gas burning engines are used.

A report should be made of all conditions and contents of every property examined, and a special note made of all dangerous conditions, and a notice served on owner or tenant, that defects or changes must be made within a fixed time, before a policy could be issued. Reasonable men appreciate their attention being called to defects in

buildings, or that danger arises from the storage of hazardous material, which endangers their property, and in most instances willingly comply with requests for remedying conditions, and if upon compliance depends their obtaining insurance, which is essential, particularly in business, there is no doubt that it would result in early compliance, but also act in a great measure in more attention being given to prevention of fire from many sources now charged with its cause.

By the adoption of this method of issuing insurance, better conditions will be effected, beneficial both to the individual and to a community. Co-operation in this will result in a reduction in losses by fire and a lowering of insurance rates which means dollars in the pockets of the insurer.

Will you CO-OPERATE?

MONTHLY BULLETIN

"MAKE PENNSYLVANIA FIREPROOF"

Department

OF THE

State Fire Marshal

OF

Pennsylvania

OFFICE—ROOM 166
Capitol Building, Harrisburg, Pa.
G. CHAL. PORT, State Fire Marshal

VOL. V SEPTEMBER, 1918 No. 30

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HELP UNCLE SAM WIN THE WAR.

Uncle Sam will, at an early date, ask you to *Loan* him of your savings and will give you the best kind of a receipt, a *Liberty Bond* bearing 4¼ per cent. interest annually.

The money received from you will be used for the support and comfort of the *Boys* who are at the front fighting your fight for the preservation of *Liberty* and freedom from tyrannical masters who would enslave the world.

Can you hesitate in doing your duty by liberally subscribing to the *Loan* when you know that those dear ones who have gone forth are enduring hardships for you, and humanity's sake, and are absolutely dependent on you for support, while engaged in the gigantic struggle for a world's *Democracy*.

BUY AND BUY LIBERTY BONDS.

Vol. V. No. 30.

Monthly Bulletin

Department

OF THE

State Fire Marshal

OF

Pennsylvania

G. CHAL. PORT, State Fire Marshal

BULLETIN OF INFORMATION FOR THE PUBLIC

SEPTEMBER, 1918

HARRISBURG, PENNA.:
1918

THE COUNTRY'S CALL.

The country is at war, a war for humanity, a war to make the world safe for women and children in which to live, and the world will be SAFE FOR WOMEN AND CHILDREN to live in before our boys return. In the meanwhile those who must stay at home, owing to circumstances, must share in conserving of resources by putting forth strenuous efforts by the prevention of fires, which consumes the wealth of the Nation to an amount of millions of dollars annually.

The National Government is foremost in its endeavors for conservation and every State Fire Marshal is doing his utmost in helping along this urgent cause as an aid to those giving their all to uphold the honor and glory of our country and to bring more effectually to the minds of the people their duty in the movement for conservation.

It was planned that on October 9th, the anniversary of the great Chicago fire, known as Fire Prevention Day, to demonstrate the essential necessity for cleanliness; carefulness; fire drills in schools, factories, etc., as a means of saving life and property; and in the endeavor to interest the people in the fight for a reduction of the fire loss of the country, which is as unwarranted as disgraceful.

In many States arrangements had already been made for carrying out the program selected on October 9th, with no thought or intention that the same would in any way interfere with a most important drive contemplated by Uncle Sam, to whom every deference must be made and every assistance given when he calls for assistance that means support and comfort to those who have gone from our midst into foreign lands to fight and carry the beloved Stars and Stripes to victory for humanity and freedom of the world from tyranny.

Uncle Sam again finds it necessary to call for funds by the sale of Liberty Bonds to carry on the war, your war and my war, and the urgency of this issue is shown by Uncle Sam's request that meetings of various conventions and assemblies be postponed from expected or usual date, so as not to interfere with the Liberty Loan drive.

W. G. McAdoo, Secretary of the Treasury, in the following communication to the State Fire Marshals, has suggested that the contemplated and important exercises in the various States in the interest of Fire Prevention, as a patriotic movement, be postponed from Wednesday, October 9th, until Saturday, November 2nd:

(Copy)

White Sulphur Springs,
August 9, 1918.

Gentlemen:

It would be a matter of practical patriotism if, for this year, the observance of Fire Prevention Day could be postponed from its usual date of October 9 to a point beyond the completion of the Fourth Liberty Loan campaign, as the necessities of wartime finance require a bond sale during October.

I am deeply impressed with the importance of conserving American resources from destruction. Since the annual American fire waste is equivalent to the interest upon six billion dollars' worth of Liberty Bonds; since it includes immense quantities of food, cotton, munitions and other war supplies, and results in the serious crippling of productive industry, the lessons of fire prevention should be made more urgent this year than ever before.

I would suggest that November 2 might be an appropriate substitute during this single year. If the suggested postponement can be brought about, it should be possible for all agencies, public and private, to co-operate more effectively in giving the utmost emphasis to this subject.

Very sincerely yours,

(Signed) W. G. McADOO.

Pennsylvania always in the forefront in responding to the Nation's call, gladly answers to the suggestion by concurring in the change of date, and by communication, which follows, has requested every city, borough and hamlet in the State to give active support in the Liberty Loan campaign and defer the observance and demonstration of Fire Prevention Day until Saturday, November 2nd.

August
Twenty-first
1918

At the suggestion of the Hon. William G. McAdoo, Secretary of the United States Treasury, FIRE PREVENTION DAY has been postponed from Wednesday, October 9, 1918, to Saturday, November 2, 1918, so that it may not interfere with the Liberty Loan campaign in October.

Fully appreciating the suggestion of Secretary McAdoo, we would be pleased to have your co-operation in withholding for the present any activities that may have been contemplated for this occasion so that everyone will be free to do their utmost during the Liberty Loan campaign.

Arrangemnts for Fire Prevention Day, Saturday, November 2, 1918, will be carried out as far as possible in line with the program sent out by this Department on August 1, and we would appreciate your co-operation in the movement, which you have already so generously shown, after the Liberty Loan campaign is ended. The school exercises for this occasion will be observed on Friday, November 1, in accordance with the original program.

Very truly yours,

(Signed) G. CHAL PORT,
State Fire Marshal.

BENEFICIAL CO-OPERATION.

The work of the State Fire Marshal is directed towards the saving of property which is uselessly sacrificed by neglect, carelessness, and the folly of owners or tenants, and he is using every effort to accomplish this purpose by advocating fire prevention as a means which is within the power and knowledge of every person to assist in forwarding. It is indisputably to your interest to do so, not only from an individual point of view, but your standing in the community in which you live demands that you lend your aid to any movement that is of such special benefit as the conserving of the lives and property of the citizens. By co-operating with the work of the Department the citizens of the State, regardless of station, whether they be owners of property or merely occupants of one or more rooms, can produce results which will greatly repay for the exertion put forth.

Fire prevention, like fire fighting, is an evolution; not a revolution. Education will, in this important movement to which no particular attention has been heretofore given, do much to bring about a realization that the time is now here for this evolution. Take it to yourself. Would you not rather expend some of your leisure time to the safeguarding of your property, rather than neglect to do so and sustain a loss by fire that is absolutely unnecessary? You can do this by studying your interest, getting busy and making a thorough inspection of your home or of any other building that you have an interest in and immediately giving orders to CLEAN UP and see that it is done, so that hereafter no accumulation of anything that would cause fire is permitted to remain in or about the premises.

Carelessness is one of the greatest, if not the greatest, causes of fire; during the winter much useless material may have accumulated and been stored away in closets, cellars, attics or other out of the way places just to get it out of sight until the spring CLEAN-UP. This should not be; it is a dangerous practice. There should be no packing away of useless articles or other material of inflammable nature. All such should be immediately removed and destroyed. If this is done it will make house cleaning much easier and lessen the causes of many fires. Use care in getting rid of rubbish. If burned do not do so on a windy day; nor should it be piled near a building. Be sure not to

leave a smouldering fire. A few sparks from a rubbish fire may fall on a roof and cause a destructive fire. Won't you adopt the plan of having a CLEAN UP DAY every day and help reduce the fire waste, which is of such enormous cost, not only to you, but to all your neighbors?

If rubbish is burned every night or morning, either in the furnace or in a metal oven, with mesh wire over the top, the danger of fire from careless lighting will be eliminated. If it is not destroyed every day the pile grows and the danger of fire increases in like proportion. Oily rags will produce spontaneous combustion, and should always be kept in closed metallic receptacles. Many instances can be cited where great destruction of property has occurred by fire started through the spontaneous combustion of oily rags which were thrown in a corner or closet and forgotten. Thousands of business men fail to safe-guard their business, which strict economy and industry have created. Nor do they give a thought to the protection of the lives of their employes. They, of course, carry insurance and in case of fire, expect to be refinanced from this source; but those who have experienced such a loss know that no amount of insurance can restore lost trade which becomes scattered as the inevitable result of fire-loss which was probably caused by carelessness and could have been avoided by the prompt removal of fire-breeding material and keeping premises clean.

Fire prevention should dictate to every parent to see that the house in which he lives is a safe abode for his family. There should be protection against physical danger, theft, disease, fire, etc. The first two dangers should be taken care of when the house is built, while the last two are matters of more or less constant attention. When disease is indicated by symptoms, you immediately call a physician, but when fire threatens you, you are unprepared, though you should realize that danger from that source is constant and comes when least expected. You can be prepared by the introduction of fire extinguishers that can be used even by the children, and should do so and at once; they are considerably less expensive than a fire and have been the means of saving many lives and much property. Two or three one-quart extinguishers placed through the house, ever ready for emergencies, will

certainly produce a sense of security in the minds of the inmates and perhaps be instrumental in saving from destruction the property that represents the expenditure of years of energy and deprivation of many pleasures.

"Keep the Home Fires Burning," but don't through carelessness destroy the home.

DANGEROUS SHORTAGE OF FIRE FIGHTERS.

From all over the country come increasing reports of the continuous depletion of the fire-fighting forces of the cities due to war needs of men and to greater opportunities offered by the industries. In some cases these shortages have become acute to the point of closing down of stations. Eligible lists have dwindled to nothing; lowered standards, increased wages and higher age limits have had almost no sufficient counteracting effect. There are few cities which have not military establishments or industries and warehouses directly concerned with activities in the prosecution of the war and the shortage of firemen therefore represents a real hazard to vitally important property. This danger has been recognized by the insurance companies and underwriters' associations.

While nothing short of utmost need should be allowed to interfere with the efficient filling of the man-power requirements of the war program, it should be recognized that there are limits beyond which the depletion of labor in such an essential work as safety of war industries may be almost as dangerous, as such depletion in those war industries themselves. Munitions, food and clothing might just as well not be produced as produced to be burned.

At particularly important points, the use of soldiers and sailors for regular fire-fighting service would be justifiable. It would be logical that these men be experienced fire-fighters. A reasonable solution in some cases, especially in large munition centers, would be the assignment of drafted firemen to those city stations covering the areas to be protected. Equitable arrangements could be worked out by representatives of the War Department, the War Industries Board and representatives of the International Association of Fire Engineers. Some relief is urgently needed by the affected fire departments.

In any case, the luring of labor from the fire departments by munitions and ship-building plants should be given consideration in any plan adopted for stabilizing the labor supply. If the firemen find that they cannot work at pre-war salaries, the War Labor Board may find it possible to obtain financial relief from the Government to help the cities carry the financial burdens. The amount of money needed would not be overwhelming, considering the value of the property in danger, both from the monetary and war standpoints.—Municipal Journal.

BEST FIRE HOSE MOST ECONOMICAL.

Does it pay to purchase a cheap grade of hose for Fire Department use, place it on obsolete or modern apparatus, and expect satisfactory service from the Fire Fighters? Emphatically, "No!"

There are many points to consider from firemanic viewpoints, in the proper selection of fire hose, which unfortunately are oftentimes overlooked by the purchases, simply because they are not familiar with the necessary treatment to which the hose is subjected. Quite often, especially in the smaller municipalities, the price at which a fire hose if offered carries more weight than the quality and dependability of the product bid on. I have always avowed and always will that the best hose obtainable is the cheapest.

I would not consider the purchase of a single-jacket hose for fire duty; double-jacket hose is always preferable for various reasons, all of which I will not name for lack of time and space. D. J. hose is doubly dependable and outwears the S. J. if a sufficient amount of money is invested in the purchase to insure the delivery of the best. The outer covering of the D. J. hose is built to withstand the hardest usage, in all kinds of weather, and if by accident it becomes damaged in any way it can readily be replaced at a nominal cost. It also serves to protect the inner jacket, which retains its original strength for years, aiding greatly in relieving the strain on the rubber lining when working under heavy water pressures.

When using a double-jacketed hose the possibility of the hose being completely destroyed by fire (as in exceptional cases) becomes less, while this hazard is more deeply felt when the single-jacket hose is in service.

Providing a sufficient sum is awarded to purchase a good grade of hose from an experienced and thoroughly reliable fire hose manufacturer, you can bank on it that you will receive full value on every dollar invested, when your hose is delivered—you need not fear that a good part of your disbursement is being used to pad out salesmen's entertainment expense or to cover hand-outs to unscrupulous officials. A good D. J. hose is usually built to withstand at least 350 or 400 lbs. pressure and is guaranteed for a period of approximately three years. It is impossible for the manufacturer of a cheap grade of hose to furnish a reliable rubber lining, substantial cotton jackets and dependable brass or bronze couplings at the suprisingly low prices at which some brands of fire hose are offered. Most good grades of hose are constructed in such a manner as to eliminate elongation of the outer jacket when under pressure and the possibility of kinking and twisting is often done away with.

Seldom does one hear of the failure of a good fire hose to live up to its reputation—its dependability at the critical time; it is usually the cheap bargain-counter stuff that fails in the hour of need, often resulting in the loss of thousands of dollars' worth of property and some times human life.

Mr. Fire Chief, you owe it to yourself, as well as to those who look to you as the guardian of their lives and property, to equip your department with the best fire hose and apparatus that money can buy; give it good care, and you are placing a rock-bottom guarantee on the efficiency of the boys who battle with you against the enemy in the war that never ends.—Municipal Journal.

NUMBER OF FIRES REPORTED SHOWING VALUE OF PROPERTY, LOSS AND AMOUNT OF INSURANCE—APRIL, 1918.

(Exclusive of Philadelphia and Pittsburgh.)

Counties.	Number of Fires.	Estimated Value.	Estimated Loss.	Amount of Insurance.
Adams,	3	$32,100	$26,410	$9,160
Allegheny,	34	458,600	259,125	233,200
Armstrong,	3	4,800	2,070	3,400
Beaver,	2	197,700	3,747	0
Bedford,	1	2,000	425	1,300
Berks,	31	279,046	38,850	118,303
Blair,	13	32,230	1,395	15,950
Bradford,	8	18,546	5,245	11,850
Bucks,	6	15,500	9,772	12,900
Butler,	4	6,800	4,412	5,100
Cambria,	22	76,134	17,188	47,120
Cameron,	2	6,500	1,887	1,000
Carbon,	1	2,200	3	1,200
Centre,	4	8,225	1,634	6,525
Chester,	14	37,095	3,647	28,200
Clarion,	3	2,345	2,295	1,150
Clearfield,	8	14,142	7,320	4,700
Clinton,	2	17,032	17,012	5,000
Columbia,	9	33,702	19,567	15,515
Crawford,	7	69,393	5,905	23,700
Cumberland,	7	42,764	31,861	19,500
Dauphin,	11	185,220	9,753	25,500
Delaware,	11	57,175	18,716	15,700
Elk,	1	2,750	72	2,000
Erie,	40	252,945	15,932	136,650
Fayette,	10	96,864	51,527	58,725
Forest,	2	1,500	37	1,400
Franklin,	5	69,000	675	63,100
Greene,	2	1,635	175	1,200
Huntingdon,	1	1,060	975	640
Indiana,	3	15,400	3,940	10,175
Jefferson,	3	3,125	1,164	2,000
Juniata,	1	1,000	33	800
Lackawanna,	27	244,680	49,190	177,275
Lawrence,	6	11,675	720	7,675
Lebanon,	3	5,050	3,622	1,044
Lehigh,	3	75,030	42,190	37,520
Luzerne,	35	260,475	14,208	140,287
Lycoming,	11	562,633	1,123	524,350
McKean,	3	2,900	1,872	1,100
Mercer,	16	46,224	12,320	12,960
Monroe,	1	4,000	4,000	2,800
Montgomery,	11	50,275	12,606	43,100
Montour,	3	8,145	295	5,500
Northampton,	7	45,575	4,830	30,175
Northumberland,	6	14,475	2,160	13,200
Perry,	3	15,285	10,325	8,880
Pike,	4	17,250	16,409	9,150
Potter,	4	9,240	7,518	4,000
Schuylkill,	7	40,627	1,687	16,525
Snyder,	3	5,150	1,969	3,625
Somerset,	1	150	100	100
Sullivan,	2	2,400	727	1,595
Susquehanna,	3	4,100	2,243	3,150
Tioga,	4	11,700	3,470	5,700
Union,	1	14,000	5	25,000
Venango,	7	11,700	2,151	4,950
Warren,	6	13,615	3,536	9,375
Washington,	17	36,500	3,000	24,400
Wayne,	4	5,300	3,370	2,325
Westmoreland,	14	72,410	11,328	46,375
Wyoming,	4	40,500	40,200	15,000
York,	11	35,081	5,173	21,377
Total,	509	$3,717,386	$881,874	$2,088,791

CLASS OF STRUCTURES DESTROYED OR DAMAGED BY FIRE—APRIL, 1918. (Exclusive of Philadelphia and Pittsburgh.)

Counties.	Dwellings.	Barns.	Stores.	Store and dwellings.	Manufactories.	Garages.	Other buildings.	Automobiles.	No. of fires reported.
Adams,	1	2							3
Allegheny,	20	4		5	2		1	2	34
Armstrong,	3								3
Beaver,	1				1				2
Bedford,	1								1
Berks,	15	4	2	2	1		6	1	31
Blair,	10	1			1		1		13
Bradford,	3	1			1		3		8
Bucks,	2	1		1	1		1		6
Butler,	2	1					1		4
Cambria,	16	1		1	2		2		22
Cameron,	1				1				2
Carbon,	1								1
Centre,	2	2							4
Chester,	9	4		1					14
Clarion,	2						1		3
Clearfield,	6	2							8
Clinton,							2		2
Columbia,	3	5					1		9
Crawford,	5	1				1			7
Cumberland,	4	2			1				7
Dauphin,	4	1		2	1		1	2	11
Delaware,	6			1			4		11
Elk,	1								1
Erie,	10	3	1	9	8	2	6	1	40
Fayette,	5	2		1	1		1		10
Forest,	2								2
Franklin,	4				1				5
Greene,	1						1		2
Huntingdon,	1								1
Indiana,	2		1						3
Jefferson,	2					1			3
Juniata,	1								1
Lackawanna,	17	3	3	1			3		27
Lancaster,	6						2		8
Lawrence,	4	1				1			6
Lebanon,				1			2		3
Lehigh,	2						1		3
Luzerne,	23	5	1		1		4	1	35
Lycoming,	5				2		4		11
McKean,	3								3
Mercer,	12	1		1	1		1		16
Monroe,	1								1
Montgomery,	5	3					3		11
Montour,		3							3
Northampton,	5	1		1					7
Northumberland,	2	1	1	1			1		6
Perry,	2						1		3
Pike,	2	1					1		4
Potter,	2				1		1		4
Schuylkill,	6	1							7
Snyder,	2				1				3
Somerset,							1		1
Sullivan,	2								2
Susquehanna,	3								3
Tioga,	3			1					4
Union,	1								1
Venango,	7								7
Warren,	2							4	6
Washington,	16						1		17
Wayne,	2	2							4
Westmoreland,	7	1	2	2	1	1			14
Wyoming,	2	1					1		4
York,	4	1		1			5	0	11
Total,	294	62	11	32	29	6	64	11	509

MATERIALS USED IN CONSTRUCTION OF BUILDINGS DESTROYED OR DAMAGED BY FIRE—APRIL, 1918. (Exclusive of Philadelphia and Pittsburgh.)

Counties.	Brick.	Fireproof.	Stone.	Wood and frame.	Wood with brick or stone.	Unclassified.	Not reported.	Totals.
Adams,	1			2				3
Allegheny,	4	1		25	1	3		34
Armstrong,				3				3
Beaver,	1			1				2
Bedford,				1				1
Berks,	13		3	12	1	2		31
Blair,	1			12				13
Bradford,	1			7				8
Bucks,	1		1	4				6
Butler,	1	1		2				4
Cambria,	2			20				22
Cameron,				2				2
Carbon,				1				1
Centre,				4				4
Chester,	1		2	10	1			14
Clarion,				3				3
Clearfield,	1			7				8
Clinton,	1			1				2
Columbia,	1			8				9
Crawford,	1			6				7
Cumberland,	1		1	4	1			7
Dauphin,	4			5		2		11
Delaware,	3			6	2			11
Elk,				1				1
Erie,	8		1	28	1	1	1	40
Fayette,				8	2			10
Forest,				2				2
Franklin,	3			2				5
Greene,				2				2
Huntingdon,				1				1
Indiana,				3				3
Jefferson,				3				3
Juniata,				1				1
Lackawanna,	4			23				27
Lancaster,	2			6				8
Lawrence,		1		5				6
Lebanon,				3				3
Lehigh,	1			1	1			3
Luzerne,	3			30	2			35
Lycoming,	2			8		1		11
McKean,				3				3
Mercer,	1			13	1	1		16
Monroe,				1				1
Montgomery,	4		1	5	1			11
Montour,				2	1			3
Northampton,	1		1	5				7
Northumberland,				5	1			6
Perry,				3				3
Pike,				4				4
Potter,				4				4
Schuylkill,	1			6				7
Snyder,				3				3
Somerset,				1				1
Sullivan,				2				2
Susquehanna,				3				3
Tioga,				4				4
Union,				1				1
Venango,				7				7
Warren,				5		1		6
Washington,		1		16				17
Wayne,				4				4
Westmoreland,				13	1			14
Wyoming,				4				4
York,	1			10				11
Total,	69	4	10	397	17	11	1	509

CAUSES OF FIRES AND LOSS INCURRED—APRIL, 1918.

(Exclusive of Philadelphia and Pittsburgh.)

Causes.	Number of Fires.	Loss.
Adjoining fires,	29	$17,671
Ashes (hot)—Careless disposal,	2	35
Backfire,	2	57
Candle carelessness,	4	102
Chimney—Flues—Stacks—Defective or overheated,	63	58,761
Cigars and cigarettes (lighted)—Carelessly discarded,	7	1,084
Clothing and curtains exposed to contact with Stove, heating appliances, and unprotected lights,	11	3,828
Coals (Hot)—Falling from stove or furnace,	1	25
Electric flat and gas iron carelessness,	2	3,800
Electric wiring—Defective,	12	36,065
Explosions:		
Alcohol, gas and oil lamps,	1	8
Alcohol, gas and oil stoves and heaters,	20	4,124
Boiler,	1	25
Chemicals and acids,	1	500
Coal oil and kerosene—Starting fires and filling lamps and lanterns,	9	5,521
Gas leak,	13	4,960
Gasoline—Benzine—Naphtha—Careless use and cleaning with exposed to fire or unprotected lights,	2	1,400
Gasoline—Pipe or storage leak,	3	22,275
Oils (inflammable)—Ignition,	1	7,500
Fireplace—Defective or overheated,	3	25
Flat irons and bricks (heated)—Used for warming purpose in bed,	1	165,000
Furnaces, heaters, stoves, and their pipes—Defective or overheated,	23	23,316
Fumigation,	1	400
Grease ignition on stove,	3	741
Incendiary,	6	32,603
Lamps and lanterns—Overturned,	2	2,715
Lightning:		
Buildings not rodded,	1	2,900
No report as to rods,	14	8,711
Lime kiln operation,	1	400
Matches:		
Careless use and keeping,	18	23,104
Children,	26	20,125
Metals (hot), asphalt, tar, pitch, etc.—Ignition of,	1	10
Smoking:		
Carelessness,	4	1,055
In bed,	3	72
Meats,	7	35,220
Sparks,	4	825
Chimneys, flues, stacks, cupolas,	49	17,798
Locomotive,	10	1,243
Rubbish and brush burning,	13	3,255
Stationary engines, tractors, etc.,	2	1,540
Spontaneous combustion,	5	6,890
Torch carelessness,	1	3,000
Tramps,	1	800
Undetermined,	118	291,955
Vulcanizing,	2	305
Woodwork and furniture exposed to contact with stove, heating appliances and unprotected lights,	6	125
Total,	509	$811,874

FOR THE GOOD OF MANY.

The people are great when they unite for the common good, and there is nothing that will be more beneficial or more for the common good than uniting for the prevention of fire losses

It will result in case of mind and freedom from monetary and other loss. To acquire property and then not protect it is the height of folly. No one wants to be accused of folly. The fact that you carry insurance does not protect your property, it only is an agreement that you pay so much in premiums and should your property be destroyed the company will pay a certain amount, not necessarily the full amount insured for, that depending upon adjustment. Then if the full amount is paid, if it is your home that is destroyed, there are many things of value to you and your family that can never be replaced by the money received.

How much better if you provide for the prevention of fire. * Don't be behind the times. The question of fire prevention throughout the United States is one that is looked upon as being of vital importance, particularly at this time. In every State where the movement has been started the results have been most gratifying, bringing about a reduction in the number of fires; reduction in fire rates and above all the reduction in loss of life.

The loss by fire is a loss to a community and tends to increase the branch of taxation directly to the property owner who insured and indirectly to the people at large, in the loss of taxes on property. Fire waste should call for every effort towards its elimination. It is not only destroying your property, but that of your neighbor, and places the lives of loved ones constantly in danger. Won't you do your share as an individual towards the reduction of fire waste in the community in which you live.

Take up the matter with your neighbor and organize a fire prevention association and have a fire prevention day. Get the teachers of your schools interested and let them teach the children what it means to prevent fires. Instruct them in fire drills and point out the danger that results from the careless handling of matches; the building of bon fires; burning leaves or brush. Teach them that all fires are the same size at the start and that they must not play with fire of any kind. Get them interested in the subject and instill in

their minds that the prevention is more important than the extinguishing of fires already started. Many children are required to kindle the morning fire and empty the ash pan. Instruct them never to put ashes in wooden boxes and if they throw them on the ground, be sure not to do so near a building.

Get the young men and women together. Point out the advantages to them in fire prevention which may mean so much to them in the future. Instruct them in the danger of permitting rubbish in and around their houses Point out the danger of friction matches. Advise the using of safety matches and don't even allow safety matches to lay around where children can get them.

Point out the danger of using coal oil for kindling fires. That lamps should never be filled near exposed lights. Do not let coal oil or other oily rags lay around near where fire can reach them; they may become heated and cause spontaneous combustion. Gasoline stoves, while convenient, are very dangerous when not properly used. No one should use these stoves without careful instruction and direction and tanks which stand above the stove should never be filled while the burner is lighted. Never fill a tank quite full, and see that the burners are shut before filling the tank. Be careful not to let too much oil flow into the burners, and be sure to close them when not using. See that the gasoline can is kept outside, never in the kitchen. Gasoline must not be poured from one vessel to another in a room where there is a light. Be careful when near open fire places and grates; there is danger of your clothing being set on fire, and by coals rolling out of the grate and setting fire to the wooden floor.

Care should be taken in burning rubbish in the yards; sparks may carry a long distance and set fire to valuable property. This can be prevented by not making a bon fire too large and see that it is not near inflammable property and be sure that it is completely extinguished before leaving it.

Never use exposed flames near window curtains or clothing hanging in clothes presses or carrying lighted candles where fire may communicate to furniture, bed clothing, etc.

In addition to preventing fires, give instructions in extinguishing fires when first started. In homes and business houses fire extinguishers should be within easy reach; a blanket or mattress will sometimes be very effective or convenient. Realize that it is up to you and to each of you in your community to reduce the fire waste which is to

your own advantage and means a saving of many dollars annually. Help in the movement to reduce fire waste and remove all visible causes of fire on your property. Join together in the prosecution of those who may attempt to burn their property and injure yours.

A little effort on your part in the beginning will result to the advantage of yourself and your neighbors. Help one another in the prevention of fire and help the State towards a reduction in the fire waste. Start a campaign of education in fire prevention; it will pay better than any investment you ever made. Fully sixty per cent. of the fire waste in this State is due to preventable causes. In the scramble for the almighty dollar, people have been careless and have forgotten that one dollar saved is as good as two dollars earned. Get together and save the dollar by the Prevention of Fires.

RESPONSIBILITY OF SHINGLE ROOF.

Insurance statistics prove that a large percentage of fires originate on the roof. Fire means waste, and waste means loss. It matters not if the building is insured, the loss is just as great as is the amount collected from the public in the form of insurance rates. The rate of insurance is determined by the amount of the loss, and the more fires, the higher the rate.

Manufacturers and dealers pay for insurance, and the cost is added to the price of goods which the consumer pays, and the higher the insurance rates the more you have to pay for all the articles you purchase, including food. Therefore, a reduction of the fire loss means that every individual would directly benefit by a reduction in the cost of living.

One of the greatest problems which confronts the public today is that of the annual fire loss, and the fact stands out clearly above all others, that the inflammable roof constitutes the greatest single fire hazard, which has assumed gigantic proportion and is being added to daily, as reports come in from all sections of the country showing "Entire Towns Destroyed by Fire. Flying Brand Set Fire to Thirty Houses," "Conflagration Wipes Out Residential Section." Truly the shingle roof route to destruction is being widely advertised.

A careful analysis of conflagrations shows four elements to be present; a spell of hot dry weather; high winds; a preliminary quick fire, and inflammable roofs. If one of these elements is removed the conflagration is unlikely to take place. The elements of weather cannot be controlled. The quick, hot fire can be controlled by general unburnable construction which will not become a reality until the many fire traps, which cover the country, rot, or are burnt, but the roofing element can be changed and should be so that it will no longer combine in general reaction and make conflagrations impossible.

The inability of any section, where shingle roofs are prevalent, to resist the ouslaught of a conflagration is pitable. The fire blazes hotly and the burning embers are caused by the wind to start fires in different sections. The fire departments are rendered helpless, owing to having two or three fires to cope with at one time, and when from ten to twenty fires start at once there is no help.

Every year the volume of loss from improper and hazardous roofing conditions is increasing from ten to forty per cent, and as an example of the danger arising from the use of wood shingles, and an argument in favor of non-inflammable roofing, the story of the great fire at Salem, Massachusetts, can be quoted: "The fire started in a frame leather shop, roofed with wood shingles. The blazing shingles were carried to surrounding buildings by the high winds and started a general conflagration. Witnesses saw shingle roofs burst into flames long before the fire reached them. House after house blazed as the rain of sparks fell on the roofs setting them on fire."

Shingle roofs are an invitation to fire. With their curved and jagged edges, pointing upwards, they offer lodgement to flying embers and, in the case at Salem, which cost that city several million dollars, recognizing the responsibility of shingle roofs for this loss, the city council passed an ordinance prohibiting the use of such roofs in the future. Many other instances could be mentioned where the same conditions have resulted from just such cause. The time has arrived to put the limited supply of timber to a much better use than sawing it into kindling wood size and arranging it in convenient form for burning on top of your homes. Will you continue to literally burn up your money, and complain about the high price of living, or will you help to banish forever the wood shingle

and assist in obtaining in your community by law, or other means, regulations requiring that all roofs must be made of non-inflammable materials? Common sense should teach you that this is a move in the right direction, and you will profit by the reduction in the loss caused by the best invitation to fire in use today.

PUBLIC FIRE DEPARTMENTS.

Of an importance which increases with the growth of a community and of the values involved, is the form of the organization of the fire department. In times past, practically all departments were volunteer organizations, survivals of the day when a few men would organize for mutual protection, with little regard for the property of others unless forming an exposure to their own. These volunteer departments, in the larger places have mainly given way before the demand for better trained men and more prompt and efficient work. The next step forward was a part-paid call system with or without some permanent men paid full time; this system has been extensively used in New England states and has given excellent service. However, the call system is being rapidly replaced, especially in the larger places, by full-paid permanently employed departments. The reasons for this are somewhat the same as those for discarding the volunteer system. For example, as an alarm of fire calls out many workmen, causing a loss to their employers with seldom any direct benefit, the objections of the employers made it harder each year to obtain good men for the fire service. The recent introduction of automobile apparatus has so increased the speed of response that unless men are at the station they cannot respond with the apparatus and their delay in reaching the fire is still more pronounced than with horse-drawn apparatus; discipline cannot be as well maintained and drills are not as complete nor as often held, with a consequent lack of efficiency in the department; last, but not least a call or volunteer organization does not readily lend itself to fire prevention work, as does a paid department. Further consideration will be given some of these items, as being of first importance in securing the highest department efficiency.

In fire departments, as in other branches of city government, political domination and petty graft have prevailed at various times. It goes without saying that the appointment of officers and men for

other reasons than their fitness for fire service will almost inevitably result in demoralizing the force and decreasing its efficiency; probably the most serious effect is obtained when political debts are paid in the appointment of chief officers. Only men of proven ability should be given important positions; in some cases, competent chief officers of the smaller departments have been appointed to similar positions in the larger cities, and this scheme has worked out well. For all officers long tenure of office is desirable, to secure proper familiarity with local fire conditions and the general duties of the position; to obtain this as well as to eleminate harmful political changes, the appointment of all officers for indefinite terms, with removal only under charges, is desirable. The method of appointment best adapted for any city depends largely upon the size of the city and local conditions. Civil service methods have been in some cases rather freely criticised, but it is doubtful if anything better, or in fact as good, could be substituted. Where civil service is properly applied, the past record of applicants is considered and they must successfully pass a rigid physical examination before taking the mental examinations. While the mental examination may bar out some otherwise desirable applicants, yet in the larger cities there is no lack of applicants and it is readily practicable to make physical requirements such that all the men getting on the eligible list shall have the making of able-bodied firemen. The varied emergencies and requirements of modern fire department work are best met by men capable of passing reasonable mental as well as the physical examination, rather than by men whose chief asset is mere strength.

When the eligible list is established, appointments should be made by the chief rather than by a council committee or the mayor, and appointments should not be made permanent until the officers have had opportunity to observe the work of new men at fires and determine whether they will make successful firemen. Once appointed, they should be made secure in their position during good behavior and efficient service.

For retirement, the National Board of Fire Underwriters has recommended that members be retired from active duty on reaching the age of sixty-two years, unless at that time they are unusually efficient. Sixty-two years is the age for retirement from the United States Army and Navy. The exemption from this rule of members of unusual efficiency enables the department to avail itself of the

accumulated experience of the higher officers, who should have no manual labor to perform. In connection with requiring members to retire on account of age, there should be provisions for pensioning men for long service or disability.

In the ordinary full-paid department, the men will be collected in a comparatively few companies of efficient strength to man all the apparatus at the station. If call men or volunteers are included in the department, then enough full-paid men should be assigned to get the apparatus to a fire and get to work. In a part-paid engine company, for instance, the engineer, two drivers and one other member, preferably the captain, should be full-paid so that at least two men will be on duty during meal hours, enough to get the apparatus to the fire; for a hose or ladder company, at least two men must be full-paid. This does not allow for days off or sickness, for which permanent substitutes should be employed, who will shift from one company to another to fill in.

For a full-paid department, the National Board recommends that at least seven men be present at all times in each engine and ladder company in mercantile and manufacturing districts and five men in other districts. For hose companies the men should number at least five and three, respectively. In an engine company the men will be as follows: Engineer, one, officer, two drivers and three hosemen. With a motor pump only six men will be required as the minimum on duty at all times.

In some departments the drivers are allowed to stay idly with their horses while the few hosemen struggle to carry hose upstairs and ladders. This is obviously poor practice, but has been a difficult one to overcome.

The requirement of seven men present at all times in important engine companies may appear low; on the contrary it is rather higher than obtains in many cities, as men get ten to fifteen days' annual vacation, four to seven days off per month, and three or four hours for meals. Consider a fourteen-man company, where men get two weeks' vacation, one day off in five and three hours daily for meals, a common arrangement. During a large part of the time one man is on vacation and three on days off, leaving ten on duty for the day: then during three hours the company is reduced to six men and during six hours to seven men, if men go in three shifts.

EQUIPMENT.

The equipment for a department is largely dependent upon the topography of the city, the character of the buildings and condition of the water supply. Where the water works system is so designed as to provide an ample supply of water at a minimum hydrant pressure, during draft, of seventy-five pounds or over, the fire department can be kept upon a direct-hydrant stream basis until buildings of over four stories begin to be numerous. One or more engines in service or in reserve may be desirable to protect the higher buildings or those too far from the hydrants for effective hydrant streams; for cities of over 30,000 population, it is advisable to have about one-third the companies provided with engines, to furnish the more powerful streams. Frequently some of the residential sections will be at considerably higher elevations than the business district and companies in these localities must be equipped with fire engines.

Chemical apparatus should be the main reliance for ordinary fires; in some cities, 75 per cent. or more of the actual working fires are controlled by chemical streams. In recent practice the automobile combination chemical and hose wagon has been found an exceedingly valuable apparatus and is largely superceding both the horse-drawn combination wagon and the straight chemical.

Steam fire engine construction has become quite well standardized and these machines have reached a comparatively high degree of reliability. However, the application of the gasoline motor to fire service offers such advantages that in past year or two comparatively few steam fire engines have been sold, and many of these have been equipped with motor tractors to replace horses.

MOTOR PUMPING ENGINES.

Various types of pumps have been used, and there are a number of different methods of connecting the pump to the engine. The types in use include reciprocating piston pumps, both single and double-acting rotary cam or gear pumps, and pumps of centrifugal or turbine design, either of multi-stage or with two or more single-stage pumps working in series. Machines embodying each type of pump have been successfully developed. Reciprocating pumps usually require a more complicated power-transmission system than the

others, and to work successfully with the range of pressure desired, have been provided with transmission permitting two speeds; this type of pump is, however, reliable, efficient and easily kept in good condition, if properly designed and given competent attention. The rotary pump, because of its compactness and the simplicity with which power may be transmitted to it, is well adapted to this service; some of the early makes, however, were not well designed for efficiency, and others were not able to operate at high pressure; the wear resulting from service, unless properly cared for in the design, will occasion high slip and impair efficiency.

REQUIREMENTS FOR FIRE SERVICE.

With any type of pump, the requirements desirable for fire service are flexibility of operation, that is, ability to operate over a wide range of pressure and the power required for good fire fighting; the National Board has recommended that the test be such as to obtain the full rated capacity of the pump for two hours against a net pressure of 120 pounds and one-half of the rated capacity for one hour against a net pressure of 200 pounds. In some cases this last clause is changed to provide for a half-hour run at one-half capacity and 200 pounds net pressure and a half-hour run at one-third capacity and 250 pounds net pressure.

There are a number of automobile pumping engines now on the market which compare well in point of reliability with the steam fire engines, but there are other makes which have not passed the experimental stage and have not proved their ability to operate successfully for long periods and under the varying conditions of fire service.

EQUIPMENT FOR ENGINE COMPANIES.

The ideal equipment for an engine company in a city able to afford it consist of two pieces, a pumping engine and combined chemical engine and hose wagon, the latter ordinarily known as a combination wagon. A good arrangement in small or medium sized cities is to have about half the companies equipped as above, which will furnish adequate chemical service, and the other half equipped with combined pumping engine and hose wagon. This latter piece of apparatus must, of course, be so manipulated at a fire that after

the one or two hose lines needed are stretched from the hydrant to the burning building, the engine will reach the hydrant and connect its suction as quickly as possible; there will naturally be somewhat more delay than if a separate engine and hose wagon are provided, but this delay should not be more than two or three minutes in most cases, even when two lines of hose are laid, as shown by tests of a crew trained to the work.

THE HOSE SUPPLY.

The question of hose is often one requiring considerable argument on the part of the chief to convince the city fathers of the need of money for an adequate supply; in addition to the hose on each wagon in service, a complete extra shift should be provided at each house in order that after use it may be shifted, cleaned and dried. If not used, hose should be shifted on the wagon at least every two weeks, in order to prevent mildew and cracking of the lining.

In case hose is burned or otherwise destroyed, or for large fires where wagons must come back to reload, the reserve hose is also needed. Investigation shows that the average hose lines in city fire department practice are somewhat over 400 feet in length; therefore, to provide for average lines, each wagon should carry about 1,000 feet of hose. For wagons accompanying large engines able to pump over 800 gallons, or for outlying districts where long lines are common, 1,200 to 1,400 feet are better, making three ordinary lines or one long line for places at a distance from hydrants.

LIFE OF HOSE.

Good quality hose should have a life of about 7 years, and annual purchases should be made on the basis of replacing all hose every 7 years. That over 5 years old should be transferred to the outlying companies, so that in sections where a burst line would have serious results there will be only new hose.

SERVICEABILITY OF THREE-INCH HOSE.

The 2½-inch hose is best adapted for regular use, but if long lines are laid or large streams required, the 3-inch size is better. With a standard 1⅛-inch fire stream flowing, the friction loss in

good 2½-inch hose is fifteen pounds per 100 feet. Thus with 800 feet of 2½-inch hose, 120 pounds pressure is needed to overcome friction and 45 pounds for the nozzle pressure, so the engine must work at 165 or 170 pounds. If hose is attached to a hydrant, the pressure is limited probably to 80 or 90 pounds and larger hose or more lines, siamesed, must be used to produce a stiff stream. Three-inch hose will convey the same quantity of water over two and one-half times as far as 2½-inch hose, with the same friction loss; for a standard 1⅛-inch stream with 800 feet of 3-inch hose only 94 pounds pressure will be needed at the engine or hydrant. By laying two lines and siamesing into one near the nozzle, the friction loss may be still further reduced, to, about one-fourth the loss with a single line. In other terms, 108 pounds engine pressure will push a 250-gallon 1⅛-inch stream through 400 feet of 2-inch hose, or 1,000 feet of 3-inch hose, or 1,500 feet of 2½-inch hose siamesed. Three-inch hose is heavy and stiff and not adapted for ordinary use in building or on ladders, so the best practice is to arrange the hose in wagons in two sections so that the 200 to 300 feet next the hydrant shall be 3-inch and the rest, which may have to be moved about, shall be 2½-inch. The national Board has made the following recommendations: That each hose wagon shall carry at least 200 feet of 3-inch hose for outside leads. For high value districts, that eventually each wagon shall carry equal amounts of 2½ and 3-inch hose, in two sections.

Where 2½ and 3-inch hose are in use it has been found a great convenience to equip the 3-inch hose with 2½-inch couplings in order to eliminate delays from mislaid reducers and varying complings. Contrary to general impression, the use of smaller couplings does not appreciably affect the friction loss, so that for ordinary fire streams the difference in pressure from straight 3-inch hose or 3-inch hose with 2½-inch couplings is not noticeable. Therefore, the National Board has recommended that both 2½ and 3-inch hose be equipped with 2½-inch National Standard couplings, properly beveled.

Annual tests of all hose over two years old, and of any others that show defects, should be made, with a test pressure of 200 pounds.

For use at serious fires, where additional lines are needed, many departments maintain their spare hose rolled and ready for quick

loading on any wagon which may be sent back for it. Of greater value is a loaded reserve hose wagon, preferably carrying 3-inch hose, kept in some fire station centrally located with respect to the high value districts. This wagon should have a turret pipe, to give powerful streams; and in addition to this, a sufficient number of other apparatus should have turret pipes, deluge sets and cellar pipes to permit the use of a sufficient number of good streams to hold a spreading fire.

EFFECT OF DISCIPLINE.

Discipline greatly affects the general condition of department, and is in itself greatly affected by political influence in many cities; semi-military discipline is usually exacted, including proper deference to superior officers. In volunteer departments the lack of discipline is very noticeable and often results in serious loss; fortunately it is rather uncommon for the lack of discipline to be so marked to-day as in the past, when it resulted in companies fighting each other instead of the fire.

DRILLS AND TRAINING.

No feature of fire department operations offers a more interesting field for study than those of drills and training and of fire methods; by means of the former the men are kept in good physical condition, and prompt and proper action is secured. A number of the best departments maintain drill schools where new members are sent for a regular course of instruction, and details from the different companies drill at regular intervals to maintain their proficiency. It is recognized that to enable proper drills to be held, a drill tower, equipped with the necessary appliances must be provided.

FIRE ALARM SYSTEMS.

The fire alarm system has been properly called the right arm of the fire department, as the promptness and accuracy of its notification largely determine the extent of the fire. A brief description of the main features is therefore pertinent.

In 1851, the question of utilizing the inventions of Morse telegraphy for the sounding of fire alarms was taken up, and apparatus invented by which tower bells could be sounded from stations dis-

tributed throughout the city. The modern fire alarm system has been developed from this beginning. The boxes contain clockwork which actuates a figure-wheel and is connected by an electric circuit to headquarters or central office. Each box has its own number, which is transmitted through headquarters to the various fire stations and designates the locality of the fire. From headquarters, alarms are transmitted either manually or automatically. In the former case, the box number is received by operators at headquarters and sent out over circuits, distinct from those containing boxes, either by a Morse key or a special transmitter. This type of system is best suited to large cities where two fires are apt to occur at about the same time, or where a number of boxes may be pulled for one fire; accuracy and speed depend to a very great extent upon the operator. In the automatic system, alarms are transmitted, at headquarters, by a repeater which receives an alarm from a box on one circuit and sends it over the other box circuits, and in some cases over special circuits to the various fire stations without manual intervention or assistance. This type of system is for use in the smaller places, where cost of maintenance is an important factor and simultaneous alarms are infrequent.

EVERY ALARM MUST BE RECORDED.

Proper design and maintenance require that every box alarm will be received at headquarters and recorded automatically. It is of more or less common occurrance for a number of boxes to be pulled for the same fire, or for alarm for two or more fires to come in simultaneously, either over the same or separate circuits; this condition, in connection with the above requirement, calls for rather complicated central office equipment, and for boxes of the type known as non-interfering and successive.

Fire alarm telegraphy is a specialized subject with which comparatively few engineers are familiar, but on which is at the present time receiving a much greater degree of attention than it has in the past, especially in a number of the larger cities where the increase of complications with growth has required special study.—Extracts from National Fire Protection Quarterly.

BACK UNCLE SAM'S BOYS

BUY LIBERTY BONDS.

HUNDREDS OF THOUSANDS OF AMERICAN BOYS ARE IN FRANCE, ITALY AND RUSSIA, FIGHTING BRAVELY TO PRESERVE YOUR RIGHTS, YOUR PRIVILEGES, YOUR COMFORT AND YOUR HOMES. WHAT ARE YOU DOING TO HELP THEM? WHILE THERE ARE MANY THINGS YOU CAN DO, THE ONE THING OF IMPERATIVE IMPORTANCE IS TO ASSIST IN RAISING MONEY FOR THEIR NEEDS, WHICH ARE MANY, AND WHICH THEY ARE UNABLE TO SUPPLY AND DEPEND UPON YOU TO DO SO. UNCLE SAM ASKS EVERY CITIZEN NOT TO GIVE, BUT TO LEND MONEY FOR THE SUCCESSFUL WAGING OF THE WAR. YOU MAY HAVE ALREADY RESPONDED TO FORMER CALLS AND THINK YOU HAVE DONE YOUR PART, BUT SO LONG AS THERE IS FIGHTING, JUST THAT LONG MUST SUPPORT BE PROVIDED. REMEMBER THE BOYS ARE FIGHTING, ON AND ON AND ON AND MAY GIVE THEIR LIVES TO KEEP YOU SAFE AT HOME. YOU MUST CONTINUE TO BACK THEM. YOU MUST NOT REFUSE. BUY LIBERTY BONDS. BUY MORE AND MORE EVEN IF YOU HAVE TO BORROW TO DO SO. THERE IS NO EXEMPTION; EVERY DOLLAR YOU HAVE IS OF DRAFT AGE AND A LIBERTY BOND IS THE BEST KIND OF RECEIPT.

MONTHLY BULLETIN

"MAKE PENNSYLVANIA FIREPROOF"

Department

OF THE

State Fire Marshal

OF

Pennsylvania

OFFICE—ROOM 166
Capitol Building, Harrisburg, Pa.
G. CHAL. PORT, State Fire Marshal

VOL. V OCTOBER 1918 No. 31

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1.3

UNCLE SAM MUST HAVE YOUR HELP TO WIN THE WAR.

On September 28th Uncle Sam will ask you to *Loan* him of your savings and will give you the best kind of a receipt a *Liberty Loan* Bond bearing 4¼ per cent. interest annually.

The money received from this loan will be used for the support, comfort and equipment of the *Boys* who are at the front fighting your fight for the preservation of the *Country* from an enemy whose tyrannical and despotic rule has plunged the world into war.

Don't hesitate to do your full duty by liberally subscribing to the *Loan* knowing, as you must, that those who are dear to you are enduring untold hardships for humanity's sake and are dependent on you for support while engaged in the gigantic struggle for a world's democracy.

BUY AND BUY LIBERTY BONDS.

Vol. V No. 31

Monthly Bulletin

Department

OF THE

State Fire Marshal

OF

Pennsylvania

G. CHAL. PORT, State Fire Marshal

BULLETIN OF INFORMATION FOR THE PUBLIC

OCTOBER, 1918

HARRISBURG, PENNA.:
1918

A REMINDER

FIRE PREVENTION DAY

Saturday, November 2nd, 1918.

From the many encouraging replies of co-operation being received from all parts of the State it is manifest to believe that Fire Prevention Day will be successfuully observed on Saturday, November 2nd, and thereby provide the object of its purpose by arousing the citizens to the magnitude of fire waste, and induce them to show their individual responsibility in eliminating a menace vitally affecting their welfare. Many cities and communities are making special arrangements for this day, and it is urged that every district do likewise so that Pennsylvania as a whole may unite in the advancement and promotion of fire prevention.

The following program has been suggested by the State Fire Marshal Department and has been indorsed by practically every source.

FIRE PREVENTION DAY PROGRAM.

1. Examination of premises by owners and occupants with the view of removing and properly disposing of waste accumulations, and immediately arranging for remedy or correction of fire hazards.
2. Short talks by employers to employes on the subject of Fire Prevention.
3. Observance of Fire Drills in institutions, factories, and other establishments.
4. Short talks in theatres and motion picture establishments on the subject of Fire Prevention.
5. Showing of slides in motion picture theatres briefly setting forth the co-operation necessary by the citizens.
6. Fire department inspection.

SCHOOL EXERCISES.

(To be observed Friday, November 1st.)

1. Readng of the Governor's Proclamation for Fire Prevention Day.
2. Brief talks or discussions on Fire Prevention.
3. Observance of Fire Drills.

Do your part and interest others. You owe this service to yourself, your neighbor, and the civic and economic advancement of your community. ABOVE ALL, YOUR ARE INDIVIDUALLY RESPONSIBLE TO YOUR COUNTRY to reduce the irrecoverable drain upon its resources particularly necessary to be conserved during this present crisis.

NEVER IN THE HISTORY OF THE COUNTRY HAS THE MENACE OF FIRE BEEN GREATER and it is therefore a PATRIOTIC DUTY to prevent fires and avoid the retardent effect that the destruction of munitions, food-stuffs, and other essentials, would have upon the successful prosecution of the war.

PERSONAL LIABILITY.

Disregard of laws, carelessness, neglect and indifference of the rights of others, are in the main responsible for the criminal and unwarranted fire waste which is striking at the foundation of the Nation's wealth and power, and destroying resources which are absolutely essential at this time for the maintenance of those who are disdaining personal convenience and giving their services for humanity's sake that liberty and fredom may be given to the world. This being so, there must be an extra effort put forth by those who, from one cause or another, remain at home; but upon whom a grave responsibility rests, and who are charged with the duty of seeing that there be no wastage of necessary requisites for the support of those who, themselves, are unable to supply the demands for food and other munitions required to bring about an early termination of the world's war, and result in the blessing of an enduring peace throughout all lands.

In the interest of conservation of resources and a reduction of carelessness which is costing millions of dollars annually, there should be enacted by the Legislature of every State in the union a Personal Liability Law, imposing certain liabilities on persons, firms and corporations for the cost of extinguishment of fires, which occur through their criminal intent, design or willful negligence, or where they have not complied with any law, ordinance or other lawful regulation for the prevention of fire or the spreading thereof, providing a method for the ascertainment of all costs and expenses of the fire department incurred in and about the use of employees, apparatus and material in the extinguishment of, or any attempt to extinguish any fire originating as aforesaid. The charges being based on wages of firemen and other offices, rental for use of apparatus and cost of water and other material and an extra penalty as supervisory or overhead charges. (Such a law is in effect in Pennsylvania, but does not extend beyond the jurisdiction of second class cities). This is a very wise enactment and places a penalty on carelessness and neglect in the interest of Fire Prevention. While this is a step in the right direction towards the reduction of fires caused by carelessness or neglect, it should go further than the mere payment of municipal charges for the use of men and apparatus, and make every person individually responsible for damage to other people's property destroyed by fire, which probably would not have occurred if the law made every occupant of a building answerable financially and legally for any loss his neighbor might sustain by fire originating from carelessness or neglect to observe precaution against fire by practicing preventive measures.

While a law of this nature would probably be deemed drastic, yet by its operation in European countries before the war it resulted in a per capita tax from fire losses, of only 27c as compared with $3.00 in this country, which must be admitted is a criminal and unnecessary waste of the Nation's resources. This waste must be overcome and should be by the enactment of a definite law to the effect that, "Every person is responsible and liable for any acts of his by which any other person has or may have sustained any loss, damages or injury."

That every person is responsible for loss, damage or injury caused by his own act, carelessness or negligence.

This responsibility, as it relates to fire, should be called the neighbor's risk and applied to landlord and tenant alike. If a fire starts in any premises through gross carelessness or culpable fault, all damage done to neighboring property by that fire should be made good. There should be no limit to this liability which might extend to an entire block in case of conflagration. The only point in the application of such a law, by which an offender might escape, is that the burden of proof lies with the claimant. The latter being required to prove, before he can recover damages, that the fire was directly due to gross carelessness, culpable neglect or mischievous intent.

Tenants should be made responsible for a fire on their premises unless they can prove that the fire was caused by something beyond their control, by some fault in building, or that the fire was communicated from a neighboring building.

Tenants should all alike be made responsible unless they can prove that the fire caught in the apartment occupied by one of them, in which case, he alone is responsible or unless some one of them prove that the fire did not begin in his apartment, in which case he is not responsible.

The tenant having a fire should be responsible to the landlord for loss of rent, not only his own rent, but that of the other tenants.

The enactment of such a law would be in the line of progression and would effectually check the many unnecessary fires which are costing millions of dollars annually, and a reflection, not only on the individual, but on a community at large, as it is a well known fact that the majority of the fires causing the great waste are easily preventable, being due to individual carelessness, neglect and irresponsibility of citizens and others, notwithstanding efforts put forth in the endeavor to reduce the waste by educational methods, instead of decreasing they are constantly increasing, showing that if the Nation's wealth and resources are to be conserved it must be done by drastic measures, placing the cost of carelessness where it belongs and subject those neglecting to observe the law a well deserved punishment, which is but just and proper.

A USELESS WASTE OF RESOURCES PREVENTABLE BY CAREFULNESS.

The American fire waste averages $250,000,000 per annum. $30,000 per hour, $500 per minute, or $3.00 per capita for every man, woman and child in the country. $25,000,000 of this waste is right here in Pennsylvania. Do you realize this? If so, what have you done, or going to do to help stop it? Will you, for your country's sake when every resource possible is needed, actively assist in the prevention of fire and the reduction of this waste?

Insurance Companies collect premiums to pay fire losses and simply act as a distributing agency. The greater the fire loss the more they must collect. If they collected less than they have to pay out they would soon be bankrupt; capital devoted to fire insurance would be wiped out. The greater the fire loss the more the people are assessed to pay for it and the less they have to spend for other necessities. Whatever is wasted in the home makes the struggle of the family harder and whatever is wasted in the Nation makes it more burdensome for its people to live.

The people are all powerful when they join together for a purpose and there is nothing that will contribute more to the common good than the uniting for the prevention of fire losses.

It will result in ease of mind and freedom from monetary and other loss. To acquire property and then not protect it is the height of folly. No one wants to be accused of folly. The fact that you carry insurance does not protect your property, it only is an agreement that you pay so much in premiums and should your property be destroyed the company will pay a certain amount, not necessarily the full amount insured for, that depending upon adjustment. Then if the full amount is paid, if it is your home that is destroyed, there are many things of value to you and your family that can never be replaced by the money received.

How much better if you prevent fire. Don't be behind the times. The question of fire prevention throughout the United States is one that is looked upon as being of greatest importance. The Federal Government and every state where the movement has been started the results have brought about a reduction in the number of fires, insurance rates and in loss of life.

The loss by fire is a loss to a community and tends to increase the taxation directly to the property owner who insures, and indirectly to the people at large, in the loss of taxes on property. Fire waste should call for every effort towards its elimination. Do your share as an individual towards the reduction of fire waste in the community in which you live.

With your neighbors organize a fire prevention association and participate in fire prevention day, which will be held this year, November 2nd. Get the teachers of your schools interested. Let them teach the children what it means in the saving of life and property by preventing fires. Instruct them in fire drills and fire prevention by pointing out the danger there is in the careless handling of matches; the building of bon fires; burning leaves or brush. Teach them that all fires are the same size at the start and that they must not play with fire of any kind. Get them interested in the subject and instil in their minds that the prevention is as important as the extinguishing of fires already started. Many children are required to kindle the morning fire and empty the ash pan. Instruct them never to put ashes in wooden boxes, and if they throw them on the ground be sure not to do so near a building.

Gather the young men and women together and point out the advantage to them in fire prevention which may mean so much to them in the future. Instruct them in the danger of permitting the accumulation of rubbish in and around their homes. Point out the danger of friction matches. Advise the using of safety matches only, and don't even allow safety matches to lay around where children can get them.

Point out the danger of using coal oil for kindling fires. That lamps should never be filled near exposed lights. Do not let coal oil or other oily rags lay around near where fire can reach them; they may become heated and cause spontaneous combustion. Gasoline stoves, while convenient, are very dangerous when not properly used. No one should use these stoves without careful instruction and direction, and tanks which stand above the stove should never be filled while the burner is lighted.

If coal oil or gasoline is spilled on the floor, see that it is wiped up immediately. Never fill a tank quite full and see that the burners are shut before filling the tank. Be careful not to let too much oil flow in the burners and be sure to close it when not using the

stove. See that the gasoline can is kept outside, never in the kitchen. Gasoline must not be poured from one vessel to another in a room where there is a light. Be careful of open fire places and grates; there is danger of your clothing being set on fire and of coals rolling out of the grate and setting fire to the wooden floor.

Care should be taken in burning rubbish in the yards; sparks may carry a long distance and set fire to valuable property. This can be prevented by not making a bon fire too large, and see that it is not too near inflammable material and be sure that it is completely extinguished before leaving it.

Do not permit stoves to become overheated. Never use exposed flames near window curtains or clothing hanging in clothes presses or carry lighted candles where fire may communicate to furniture or bed clothing.

In addition to preventing fires, give instructions in extinguishing fires when first started. In homes and business houses fire extinguishers should be within easy reach; a blanket or mattress will sometimes be very effective or convenient. Realize that it is up to you and to each of you in your community to reduce the fire waste which is to your own advantage and means a saving of many dollars annually. Help in the movement to reduce fire waste and remove all visible causes of fire on your property. Join together in the prosecution of those who may attempt to burn their property and injure yours.

A little effort on your part in the beginning will result beneficially to yourself and your neighbor. Help one another in the prevention of fire and help the State and Nation towards a reduction in the fire waste. Start a campaign of education in fire prevention, it will pay better than any investment you ever made. Fully sixty per cent. of the fire waste in this State is due to preventable causes. In the scramble for the almighty dollar people have been careless and have forgotten that one dollar saved is as good as two dollars earned. Get together and prevent fires.

NUMBER OF FIRES REPORTED SHOWING VALUE OF PROPERTY, LOSS AND AMOUNT OF INSURANCE MAY, 1918.

(Exclusive of Philadelphia and Pittsburgh.)

Counties.	Number of Fires.	Estimated Value.	Estimated Loss.	Amount of Insurance.
Adams,	2	$5,870	$759	$3,200
Allegheny,	45	1,071,525	705,252	823,220
Armstrong,	2	150,800	8,800	110,500
Beaver,	4	5,300	527	3,200
Bedford,	5	10,535	5,600	9,000
Berks,	42	120,246	47,524	77,125
Blair,	35	205,630	43,206	101,050
Bradford,	8	149,075	7,341	56,450
Bucks,	10	74,765	59,095	44,004
Butler,	12	20,560	8,182	14,995
Cambria,	25	80,956	10,292	35,900
Cameron,	3	4,177	2,175	1,800
Carbon,	2	3,650	1,020	1,350
Centre,	6	119,036	10,777	71,800
Chester,	20	195,880	42,763	99,957
Clarion,	1	2,850	2,850	1,700
Clearfield,	3	7,765	4,865	1,430
Clinton,	10	173,890	9,079	120,000
Columbia,	11	17,835	4,755	11,600
Crawford,	8	12,150	3,775	5,750
Cumberland,	4	7,460	791	5,400
Dauphin,	16	89,364	7,689	49,090
Delaware,	18	75,921	11,772	59,153
Erie,	34	483,000	49,108	268,182
Fayette,	6	90,209	75,181	79,500
Franklin,	3	7,220	2,995	2,500
Greene,	2	2,250	315	300
Huntingdon,	10	41,690	30,617	23,250
Indiana,	3	10,177	7,972	8,100
Jefferson,	12	35,711	13,061	15,701
Juniata,	5	7,945	9,085	5,130
Lackawanna,	31	141,359	18,189	77,475
Lancaster,	9	25,777	6,689	18,460
Lawrence,	4	18,000	7,872	12,400
Lebanon,	8	23,384	3,427	16,259
Lehigh,	10	151,437	32,107	87,662
Luzerne,	45	163,735	28,423	98,276
Lycoming,	13	29,375	6,371	17,375
McKean,	17	269,760	35,639	236,350
Mercer,	14	154,858	6,354	116,650
Mifflin,	1	1,400	7	1,400
Monroe,	3	11,650	8,669	5,800
Montgomery,	20	98,233	31,196	68,960
Montour,	1	15,000	9,000	0
Northampton,	16	89,260	27,359	69,371
Northumberland,	7	89,365	22,764	5,450
Perry,	3	3,275	1,483	2,503
Pike,	1	2,000	2,000	500
Potter,	1	595	200	200
Schuylkill,	13	787,925	2,017	697,700
Somerset,	7	29,850	3,378	11,650
Sullivan,	4	5,100	3,769	2,820
Susquehanna,	14	34,685	7,815	16,340
Tioga,	4	5,800	4,950	3,055
Venango,	10	12,677	4,988	12,000
Warren,	7	14,462	7,192	8,600
Washington,	9	21,566	2,710	11,200
Wayne,	6	9,422	2,807	4,110
Westmoreland,	40	242,385	31,302	141,647
Wyoming,	1	2,430	7	1,590
York,	9	9,200	2,615	7,175
Totals,	695	$5,749,513	$1,510,212	$3,953,406

CLASS OF STRUCTURES DESTROYED OR DAMAGED BY FIRE MAY, 1918.
(Exclusive of Philadelphia and Pittsburgh.)

Structures.	Number of Fires.	Loss.
Apartment houses, boarding houses, dwellings,	274	$103,120
Automobiles,	11	2,707
Bank and office buildings,	3	2,607
Barns and stables (city and town),	23	15,398
Chapels and churches,	9	23,383
Electric Railway Property:		
Car barns,	1	700
Stations,	1	500
Passenger cars,	3	40
Farm Property.		
Barns and stables,	122	222,128
Dwellings,	92	83,649
Outbuildings,	15	10,888
Garages, private,	3	85
Garages, public,	10	10,629
Hotels,	7	635
Junk shops and yards,	1	10
Manufacturing and Industrial Establishments:		
Ammunition, high explosives and shells,	1	675,000
Bakeries,	2	320
Blacksmith shops,	1	75
Box,	1	6,500
Breweries,	1	128
Cement and concrete,	1	10,000
Clothing (men's), linen, hats, caps, gloves,	1	18,000
Coal mining property,	2	23,148
Cobblers,	1	27
Creameries,	1	1,500
Electric light and power plants,	1	375
Furniture,	3	18,262
Glass,	2	46,000
Iron and steel, blast furnaces, foundries, rolling mills,	1	20,000
Leather goods and saddlery,	1	3,500
Metal, miscellaneous,	1	953
Miscellaneous,	8	33,294
Novelties,	1	4,000
Paper and pulp,	1	75
Planing mills,	5	50,355
Plumbing and tinning,	2	1,400
Printng establishments,	1	135
Saw mills,	3	1,900
Silk and lace,	1	10
Tanneries,	2	6,101
Tobacco,	1	27
Mercantile Establishments:		
Agricultural implements,	3	2,740
Barber shops,	1	15
Boots and shoes,	1	9,000
Drugs and medicines,	2	690
Flour, feed and hay,	2	2,978
General stores (rural),	3	1,404
Groceries,	6	3,962
House furnishings,	3	14,950
Meats,	1	45
Millinery,	1	1,445
Miscellaneous with dwelling occupancy,	28	22,158
Tailoring,	1	230
Wholesale groceries, produce and fruits,	1	1,440
Outbuildings (city and town),	5	935
Railroad (Steam) Property:		
Bridges,	2	10,012
Freight rolling equipment,	4	3,050
Tanks,	1	3,500
Theatres and motion picture houses,	4	30,240
Warehouses and Storage:		
General storage,	2	267
Ice,	2	4,360
Total,	695	$1,510,212

MATERIALS USED IN CONSTRUCTION OF BUILDINGS DESTROYED OR DAMAGED BY FIRE, MAY, 1918.

(Exclusive of Philadelphia and Pittsburgh.)

Material.	Number of Fires.	Loss.
Brick,	161	$102,020
Brick and stone,	1	1,433
Concrete,	1	10
Fireproof,	3	6,109
Stone,	19	29,435
Wood or frame,	517	563,525
Wood with brick or stone,	32	97,321
Unclassified,	15	27,219
Not reported,	6	683,140
Total,	695	$1,510,212

CAUSES OF FIRES AND LOSS INCURRED MAY, 1918.

(Exclusive of Philadelphia and Pittsburgh.)

Causes.	Number of Fires.	Loss.
Adjoining fires,	83	$46,365
Ashes (hot), careless disposal,	3	2,780
Backfire,	6	7,704
Candle carelessness,	1	2,451
Chimney, flues, stacks, defective and overheated,	29	17,832
Cigars and cigarettes (lighted), carelessly discarded,	10	2,350
Clothing and curtains exposed to contact with stoves, heating appliances, and unprotected lights,	19	40,127
Coals (hot), falling from stove or furnace,	1	11
Electric, flat and gas iron carelessness,	5	298
Electric wiring, defective,	19	53,113
Explosions:		
Alcohol, gas and oil stoves and heaters,	10	614
Chemicals and acids,	1	1,200
Coal oil and kerosene, starting fires and filling lamps and lanterns,,	10	1,200
Gas leak,	5	4,301
Gasoline, benzine, naphtha, careless use and cleaning with exposed to fire or unprotected lights,	4	315
Gasoline, pipe or storage leak,	2	601
Oils (inflammable), ignition,	2	21,000
Field and forest fires,	1	405
Furnaces, heaters, stoves, and their pipes, defective or overheated,	7	320
Fumigation,	1	10
Grease ignition on stove,	4	1,295
Incendiary,	8	13,280
Lamps and lanterns, overturned,	3	144
Lightning (buildings rodded),	4	11,835
Lightning (buildings not rodded),	33	89,944
Lightning (no report as to rods),	167	104,527
Lime kiln operation,	1	1,398
Matches, careless use and keeping,	21	6,543
Matches, children,	14	3,975
Metals (hot), asphalt, tar, pitch, etc., ignition of,	1	45,000
Miscellaneous,	1	1,000
Motion picture apparatus and films,	3	355
Smoking, carelessness,	4	861
Smoking in bed,	3	48
Smoking meats,	2	2,524
Sparks,	3	84
Chimneys, flues, stacks, cupolas,	32	15,643
Locomotive,	17	37,385
Running machinery (friction),	1	75
Rubbish and brush burning,	17	7,031
Spontaneous combustion,	6	8,015
Torch carelessness,	4	150
Tramps,	1	64
Undetermined,	112	948,622
Vulcanizing,	2	4,980
Woodwork and furniture exposed to contact with stoves, heating appliances and unprotected lights,	12	876
Total,	695	$1,510,212

METHOD OF FIRE PREVENTION.

Fire prevention means the elimination, or preventing the construction of all conditions by which fire can originate, and providing for the extinguishment of fires that may occur. The subject is so wide and opens a field of almost inexhaustive outline that a summary will better indicate for discussion the methods that should be specifically advocated.

Fire invariably originates through a combination of circumstances, so manifestly clear, that exercise of common sense would devoid virtually all possibility of its occurrence. In the elimination of this combination fire does not start, but in the efforts for prevention it must be borne in mind the large attributed human elements of carelessness, indifference and neglect, a combination of near criminality, which can be offset only by individual responsibility.

Fire prevention is nothing more than common sense and forethought applied to our buildings and to the equipment installed. The house and furnishings we call home, which should be "the dearest spot on earth," while the mill and factory are the sources through which our subsistence is possible. Yet in view of this, the average citizen to an unwarranted degree remains indifferent to conditions which he has from time to time learned had been the cause of some terrible conflgration due to carelessness to conform to the laws for prevention.

BUILDINGS.

More attention should be given to the condition of buildings, the repairing, if it is practicable, or the removal of dilapidated buildings which are fire traps and a menace to other property, and where neighboring buildings are found in this condition they should be reported to the authorities in order that the hazard may be abated. This condition in a large measure can be assisted by periodical inspections by the State Fire Marshal and the Fire Departments, the latter being possible in many of the larger cities.

Particular care should be given to the construction and material

used in new buildings. It has been estimated that buildings of fire resistive material can be erected at a cost not to exceed ten (10) to fifteen (15) per cent. more than non fire-resistive, and considering the deterioration of fire-resistive buildings at twenty-five (25) per cent. less than ordinary buildings, together with the many other advantages afforded, it can be appreciated that the only fire-resistive material for buildings should be considered.

There are few States which have a building code, and consequently the construction of buildings cannot be governed where also municipal ordinances are not in effect. It is very important, in fact highly necessary, that the consideration of building codes, either State or municipal, be undertaken without too much delay, to prevent the construction of buildings which will in short time develop into fire traps and endanger valuable property. No one has the right, nor should any State or municipality permit the construction of buildings which involve a jeopardy of life or a menace to property by fire.

The far reaching and vital effect of such legislation cannot be calculated and would affect every avenue of civil and industrial life in providing a fundamental method for fire prevention development. No legislation of this kind can ever be enacted without disturbing to a greater or less extent existing conditions, but this is a consequence that can never be avoided and should not constitute a deterrent factor in the way of the progressive legislation. Building code legislation provides undoubtedly the best basic method for fire prevention with respect to the physical character of buildings.

Another highly advantageous method that should be considered and applied by concerns and establishments of importance is watchman service. Particularly during this strenuous period, brought about by the activities of war, many sources of fire are possible to a greater extent than heretofore. Vigilance in this respect is a duty, and great care should be shown in the selection of competent watchmen and adequate supervision of important establishments that will insure the thorough covering of such property in a systematic order. It should not alone be the duty of these watchmen to prevent the intrusion of outsiders, which, however, is a very important feature, but also to give observance to conditions around such establishments that may be found for want of repair or correction liable to cause fire.

Many fires have been caused, and continue to occur daily throughout the country, by lightning, where in numerous instances fire could have been prevented had such buildings been equipped with lightning rods. All exposed structures, so abundant in the rural districts, should be provided with proper lightning rods, and the necessity of this protection, or prevention as it may actually be called, should be urgently advocated.

Chiefly among the methods of fire prevention for buildings should be considered:—

(a) Construction, alteration, repair and maintenance of buildings and equipment.

(b) Proper repair or removal of dilapidated buildings.

(c) Watchman service.

(d) Lightning rod protection.

Practically all State Fire Marshals have some jurisdiction or moral persuasion to partly control those conditions, and it should be, and unquestionably is the duty and purpose of all to promote fire prevention methods along these lines.

EQUIPMENT.

Equipment as it is used in this connection refers to the auxiliary provisions necessary for the operation or habitation of buildings. It is necessary to heat, light, ventilate and otherwise equip every building except those of minor importance, and this equipment being all productive, is more or less receptive of fire hazard.

HEATING—In the process of heating the hot air system, steam and hot water, are probably most extensively used. All boilers and pipes should be carefully located and installed, and the heater operated to prevent the flue or pipes becoming overheated and setting fire to combustible material in the near vicinity. The steam system has an explosion hazard where high pressures are carried, and the boiler wherever possible should be placed in a separate building.

Gas and electric heating are used only to a light extent. There

is considerable hazard in the portable gas heater using flexible tubing for connection, as this may be pulled off and the gas ignited. This can be avoided by the use of pipe connection. The hazard of the electric heating lies particularly in the wiring and this can be overcome largely by proper wiring and careful inspection.

LIGHTING—Electricity, kerosene and gas lighting are commonly used. The former is modern but if not properly installed may be a real fire hazard. Careful installation of wiring and the construction of devices make this system the safest.

Both kerosene and gas lighting are hazardous owing to open or partially open flame into which combustible objects may be carelessly moved. Kerosene lighting is more so hazardous in the ease with which a lamp may be overturned and oil ignited, and the explosion hazard in case of lamps becoming dirty and the oil low. Carefulness and precaution are perhaps at this time the only solution of fire prevention governing this cause.

There are, of course, other means of lighting, and these, except where it is not otherwise feasible, should be discouraged.

PLUMBING—Plumbing equipment is a hazard during installation and in making repairs, due to the presence of the plumber's heater and torch. Carefulness and precaution are here necessary.

VENTILATION—Ventilation should be carefully designed so that there is no formation of passages for fire from room to room, or from one part of the building to another.

POWER—Power presents a hazard in the rubbing of belts of shaftings and pulleys, overheated bearings due to wear or lack of oil, and accumulations of oil drippings and waste, if neglected. Machines of poor type and construction, etc., also form fire hazard, and should be replaced with modern equipment. The frequent examination by a safety engineer or someone designated for this purpose should prevent conditions of this kind arising and at the same time afford progressive suggestions for the installation of the safest and most modern equipment to be had.

In the equipping of buildings the employment of experts in the various lines is unquestionably necessary, not alone for the efficiency of the equipment, for what it is intended to accomplish, but also for its safety from a fire hazard view. Buildings of various classifica-

tions have equipment of many types, and the fire hazard connected with these may be eliminated to a great extent if proper care and precaution are taken in their installment and use.

MISCELLANEOUS—Fire alarm systems, fire apparatus, extinguishers, sprinklers, etc., while generally considered under fire protection, are also relatively necessary for fire prevention, and sufficient and effective equipment of this kind plays an incalculable part when systems and methods of prevention have failed.

Education by publicity is probably one of the most valuable mediums at this time by which to bring the necessary methods of fire prevention to attention, and of course inspection service referred to previously, will facilitate greatly.

HOUSEKEEPING.

The larger percentage of fires start from carelessness, or bad housekeeping conditions, mostly defined as irregularity, disorderliness, and lack of care. The most important and effective means of preventing fires, and in reach of all, is the exercise of good housekeeping, consisting principally of regularity, order and cleanliness in every household and business establishment. A preventable fire should be looked upon as a crime, but there should be no need for such accusation because it is easily within reach to prevent fire, at least to reduce the possibility thereof to a minimum.

Carelessness is perhaps the greatest cause of fires, and is a dangerous practice. The common sense knowledge should be applied here and the housekeeping "clean-up" put in effect. Regularity, orderliness, and cleanliness should prevail always, and the home and business will then contribute that element of co-operation that is so necessary for fire prevention. Communities are growing and becoming more congested, and good housekeeping should be made imperative. The tenant must be brought to the realization that he is personally responsible for the condition of "housekeeping," and the owner should have the same interest in insisting that this prevail. Periodical examination by tenants of buildings should be

made frequently with a view of having his premises kept in good condition and free from fire hazard, and this would indeed eventually result when a systematic house to house, and store to factory, method of inspection is undertaken by the State Fire Marshal Departments and the Fire Departments, with the authority to have the conditions improved.

In a survey of 8700 inspections made by the State Fire Marshal Department of Pennsylvania, the following conditions of bad housekeeping were found:

Rubbish,	1612
Explosives in buildings,	122
Defective chimneys,	100
Heat and light producing appliances exposed to contact with combustible materials,	54
Defective heating systems,	46
Defective lighting systems,	41
Defective electric wiring,	33

These conditions, which of course were the more important found, were all easily detected, and therefore no excuse for their existence, but yet no effort was made for correction until compulsory orders were issued. As well as having authority to order remedy of fire hazards, and providing punishment for failure to comply, it is becoming more evident that action is necessary to penalize persons where it is found that fire was caused by their disobedience to conform to the laws of prevention in permitting such conditions to exist and make no effort for correction.

CONCLUSION.

As previously referred to Fire Prevention is nothing more than common sense and forethought applied to our buildings and equipment. Methods of prevention have been advocated for many years by the authorities entrusted to fire prevention, but it is becoming more in evidence that co-operation alone cannot generally make successful fire prevention methods.

In certain sections we find legislation which permits a success to be maintained under drastic regulations, but unless the construction of our buiuldings, the installation of our equipment, and the care of these premises are regulated generally by legislation of some kind, fire prevention methods cannot be advantageously put into effect.

Too much cannot be said of the invaluable work being done by the various State Fire Marshal Departments and the Fire Departments, together with various organizations throughout the country in the methods of fire prevention, but the scope of authority must be increased to make fire prevention imperative, otherwise what good some may accomplish for the betterment of conditions will be offset by the indifference of others.

Fire prevention methods must start with the extermination of fire producing conditions, and for effectiveness must be advanced by legislation fixing construction and maintenance, and providing for personal liability in cases where fire occurs as a result of disobedience to a fire prevention regulation.

It is believed that at present the best methods to be applied in fire prevention is a systematic survey of all districts in the various States, under the supervision of the State Fire Marshal Departments and Fire Departments, and order the removal of all fire hazzards, and that the consideration of building requirements, and fixing liability upon those responsible for fires, be seriously considered. It is, of course, quite essential even with these regulations to endeavor to arouse the people to the seriousness of fires and secure their co-operation.

It is quite difficult to suggest what system of methods may be taken up generally because of the various obstacles to be encountered in different states, but it is hoped that this paper may open a discussion for advancement.

PROTECT YOUR MILL AND ELEVATOR.

Failure to observe these reasonable rules may result in dust explosions or fires which may cause loss of life and will cause loss of food needed by the nation:—

1. Smoking and lighted matches have caused many of our greatest fires and explosions.

Do not smoke while in or near the mill or elevator.

Do not carry matches in or near the buildings.

2. An open flame will cause a dust explosion and fire in a dusty mill or elevator.

Do not carry an open flame, lantern or torch into a dusty atmosphere.

Do not lower lanterns or open flames into dusty bins.

Do not lower unprotected electric light bulbs into dusty bins; the bulb may break, making a spark that will ignite the dust.

3. Dust and dirt invite dust explosions. The records show that there are six times as many fires in dirty mills and elevators as in clean ones.

See that no dust accumulates on beams, machines, pulleys or floors in the department where you are working.

4. Elevator choke-ups are frequent causes of fires and explosions. In many cases choke-ups have led to fires which destroyed over a million dollars' worth of grain and property.

Examine all elevators and conveyors in your department frequently and at regular intervals. Make sure that they are running properly. Report immediately any slight rubbish, slippage, or other trouble.

A LITTLE CARE MAY AVERT A DISASTROUS EXPLOSION.

BACKING UNCLE SAM'S BOYS.

BUY LIBERTY BONDS.

HUNDREDS OF THOUSANDS OF AMERICAN BOYS ARE IN FRANCE, ITALY AND RUSSIA, FIGHTING BRAVELY TO PRESERVE YOUR RIGHTS, YOUR PRIVILEGES, YOUR COMFORT AND YOUR HOMES. WHAT ARE YOU DOING TO HELP THEM? WHILE THERE ARE MANY THINGS YOU CAN DO, THE ONE THING OF IMPERATIVE IMPORTANCE IS TO ASSIST IN RAISING MONEY FOR THEIR NEEDS, WHICH ARE MANY, AND WHICH THEY ARE UNABLE TO SUPPLY AND DEPEND UPON YOU TO DO SO. UNCLE SAM ASKS EVERY CITIZEN NOT TO GIVE, BUT TO LEND MONEY FOR THE SUCCESSFUL WAGING OF THE WAR. YOU MAY HAVE ALREADY RESPONDED TO FORMER CALLS AND THINK YOU HAVE DONE YOUR PART, BUT SO LONG AS THERE IS FIGHTING, JUST THAT LONG MUST SUPPORT BE PROVIDED. REMEMBER THE BOYS ARE FIGHTING, ON AND ON AND ON AND MAY GIVE THEIR LIVES TO KEEP YOU SAFE AT HOME. YOU MUST CONTINUE TO BACK THEM. YOU MUST NOT REFUSE. BUY LIBERTY BONDS. BUY MORE AND MORE EVEN IF YOU HAVE TO BORROW TO DO SO. THERE IS NO EXEMPTION; EVERY DOLLAR YOU HAVE IS OF DRAFT AGE AND A LIBERTY BOND IS THE BEST KIND OF RECEIPT.

MONTHLY BULLETIN

"MAKE PENNSYLVANIA FIREPROOF"

Department

OF THE

State Fire Marshal

OF

Pennsylvania

OFFICE—ROOM 166
Capitol Building, Harrisburg, Pa.
HOWARD E. BUTZ, State Fire Marshal

VOL. V DECEMBER, 1916 No. 33

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DESERVED COMMENDATION.

The National Credit Men's Association at their annual convention recently held at Atlantic City, endorsed the operation of the Fire Marshals' laws in the various States where there are such provisions, which they have had under careful observation and in the sincere judgment of the officers and directors of the National Association of Credit Men the reduction of the fire waste and the prevention and punishment of arson may be accomplished in a very large degree through the faithful and skillful execution of the law by such an officer. Recording with gratification what has been accomplished in some of the states by fire marshals appointed and operating under such a law, it is believed that progress would be made rapidly for a proper reduction of the economic waste and the suppression of crime were all of the states to install by law a fire marshal with adequate and reasonable powers.

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Monthly Bulletin

Department

OF THE

State Fire Marshal

OF

Pennsylvania

HOWARD E. BUTZ, State Fire Marshal

BULLETIN OF INFORMATION FOR THE PUBLIC

DECEMBER, 1918

HARRISBURG, PENNA.:
1918

IRREPARABLE LOSSES.

Manufacturers, Merchants, Farmers, Householders, and citizens generally must recognize the fact that they individually and collectively are responsible for heavy losses by continuing to permit the great waste of wealth occurring through absolute carelessness and lack of ordinary precaution which is the cause of at least sixty (60) per cent. of all fire losses.

This loss affects every one: Employer and Employee: Owner and Tenant of property, and regardless of the amount of insurance that may be collected the waste remains. Manufacturers and Merchants may recover cost of proptrty and merchandise, but lose customers acquired by years of effort, which owing to circumstances are diverted to other channels. Employees are thrown out of positions, losing time and in many instances, causing suffering and hardship.

The Farmer not only loses buildings, but generally that which is of far more value—foodstuff which has been produced and stored as the result of a season of hard work and is so urgently needed for supplying our own Nation and those depending on this country for supplies.

The Householder loses in addition to the dwelling, accumulated furnishings and conveniences that have taken years to collect, and in many instances have sentimental value that is beyond recovery.

Self interest should certainly convince peoples to avoid the possibility of fire which has caused hundreds of deaths, made many thousands homeless and destroyed millions of dollars worth of property and all caused by carelessness and negligence. There is no question as to this wastefulness caused by thoughtlessness and failure in observance of proper safeguards and precautions in the avoidance of fires.

The fire loss for nine months in 1918, in United States and Canada, amounted to $243.470,585, as compared with $194,330,365 for same period in 1917, showing an increased loss of $19,140,220. Permitting this condition to exist is a reflection on the intelligence of the citizens at large who have for the past four years been compelled to conserve

food and other necessities of life, depriving thmselves of many of the essentials to enable the supplying or requisites to the country's allies and in the great struggle for freedom, have gladly and promptly responded to countless calls for funds for various purposes and government loans, yet they will neglect to conserve for themselves by failing to adopt measures for the elimination of fire waste which strikes at the very foundation of National power and wealth by the destruction of resources. To such a degree of seriousness has the question of fire waste become that it is absolutely essential that every person must take upon himself the duty of lending service in the fight against the fire menace by co-operating with public officials charged with curbing the enormous and senseless fire loss of the country. This is not only a patriotic, but an economic duty, which all who love country and home should be glad to follow.

The manifest necessity for drastic action in the reduction of the fire hazard is shown by the recognition given to the subject by the different states in the endeavor to arouse civic pride in the hearts of their citizens, by inducing them through co-operation to assist in the reduction of waste by acquiring the habit of cleanliness in and about premises by the removal of all fire breeding menaces, by concerted action in the direction on "Clean-up Days," by all citizens and civic bodies inducing them to lend their aid in this great work of conservation, will result in great saving of life and property. The urgency for the prevention of fires and elimination of waste has recently resulted in Proclamations calling for conservation being issued by the Governors of twenty states:—Illinois, Minnesota, North Dakota, Montana, Louisiana, Oklahoma, Oregon, Washington, Massachusetts, Kansas, Arkansas, North Carolina South Dakota, Indiana, Texas, South Carolina, Tennessee, Michigan, and Wisconsin and Pennsylvania. Canada also instituted Fire Prevention Day as a recognition of the necessity of bringing to the attention of its citizens the urgency of conservation.

Everyone must give thought and pay attention to the important matter of Fire Prevention. The active support of the public is the first and foremost factor as a means to fight this insidious enemy. It is a duty which one citizens owes to his fellow citizens, to eliminate the possibility of an outbreak of fire and there should positively be no room in a community for any man who negligently permits the accumulation of waste material which is not properly safeguarded to prevent fires.

Investigation in innumerable cases has shown that the cause of fires has been the result of carelessness and neglect, and that fire could have been prevented by the exercise of reasonable diligence.

By cleanliness in and about premises and the exercise of reasonable precaution on behalf of occupants, the opportunities for fires would be reduced to a minimum. It simply means co-operation and will result in success, as co-operation of the allies resulted in the successful termination of the war.

Get together and surprise the boys on their return home by showing them that the cleanliness and freedom from unnecessary waste, which they have been taught in the service, is being carried out at home in the interest of conserving life and property.

FIRE PREVENTION CONTROL.

> President Wilson has said: "Preventable fire is more than a private misfortune; it is a public dereliction. At a time like this, by emergency and manifest necessity for the conservation of national resources, it is more than ever a matter of deep and pressing consequence that every means should be taken to prevent this evil."

The higher motives of patriotism, at this crisis in the affairs of our nation, urgently demand that every effort be made to assist the Government in conserving life and safeguarding industry. We are engaged in a conflict which requires the co-operation of all, to the end that our resources may be developed to the fullest extent, so that the force of law shall dominate the law of force, and the liberties so dearly purchased by our forebears shall not perish. Pledged to a solemn duty, which necessitates that we must give, and give to the fullest, makes mandatory that we not alone do our bit, but our best, in the extermination of the preventable fire and its consequent evils.

During the first year of our war the reported fire losses amounted to the appalling total of $230,000,000, more than one-fourth the Third

Liberty Loan allotment for the Second Federal Reserve District. This loss is 10 per cent. in excess of the loss for the preceding year, and represents a shrinkage of assets amounting to $2.14 per person. One-third of the fires were absolutely preventable, and partly preventable fires, and those of unknown origin, made up the remainder of the destruction, which has been so aptly described by William E. Mallalieu, of the National Board of Fire Underwriters, as the "great American bonfire."

Far more vital than the property loss is the danger to life. Fires prior to the war, annually consumed in excess of fifteen hundred persons, and to emphasize this fact the public need not be reminded of the Iroquois Theatre fire, with its loss of 786 lives; the Triangle fire, which consumed 145 lives; the Collinwood school fire in Ohio, where 176 children perished, or the fire at Binghamton, with its destruction of 42 persons.

Such disasters direct us to the urgency of carefulness and the necessity of safeguarding life and property, so that men may not be taken from the service, thereby delaying the army and navy in aiding our allies, and that food, clothing, arms, and ammunitions be protected. The country is sorely in need of the assistance of every individual in watching the incendiary and those by whose carelessness is created an even greater menace.

In the daily walks of life we must take heed every moment of the good we can perform in this great cause. The rubbish heap must be abolished, and the "Don'ts" so often brought to our attention by fire-prevention engineers should be obeyed; the storage of the unnecessary inflammable or combustible material must be abolished in the home, office and factory.

Enforcement of the fire safety laws must be rigid, and the authorities upheld in such action as they deem to be necessary or proper.

Existing faulty structures can be rendered fire-safe at a minimum of cost, even in these times of scarcity of labor and materials, with a little thought and attention. Insurance exchanges, agents, and engineers can readily demonstrate that a vast saving can be made in the insurance of building and contents, at a capital cost which will bring a splendid return on the investment in fire-safety design or appliances. With new construction, the task is much simpler and even more evident. Fire proof buildings, containing the latest in science and invention, are in strong demand and bring a satisfactory return on the investment, as desirable tenants are attracted to such structures.

Exposure conditions are of great moment. Industrial plants, especially those utilized for the manufacture of war essentials, should be protected from adjoining buildings and rendered immune from a neighbor fire. The exterior should be fireproof, protected with metal windows having wire glass, and the roof constructed of fire-resistant materials. Adequate fence protection is very desirable.

Simple fire devices and appliances, such as the fire pail, the chemical engine, fire alarm, standpipe, and fire hose, are of inestimable benefit in the early control of fire even in the hands of the inexperienced. They serve a most useful purpose and are responsible for a great reduction in fire losses.

Watchman service is of the utmost importance in large structures, but the automatic water sprinkler has demonstrated time and again its usefulness to cope with the most stubborn of fires. Supervisory alarm service directly connected with fire departments, is an essential, and productive of great saving.

Inspection services rendered by the fireman often bring to light conditions of an appalling nature, chiefly arising from ignorance of fire prevention and sheer carelessness in the handling of waste and rubbish.

The primary elements of fire prevention here presented, and to which particular attention is directed are: Care; proper administration and enforcement of laws; fire-resistive construction, reduction of exposure hazard; use of fire safety appliances, sprinklers watchman service, and inspection; efficient fire departments, and adequate water supplies.

The urgency and necessity for assisting the duly constituted authorities must be evident to all, and patriotic duty suggests immediate inspection of homes, offices, factories, and places of public assembly, to the end that the fire peril may be minimized, not only during the war, but thereafter. Whatever be done toward aiding the service will bring its own reward, in the consciousness that we have lifted from our minds the moral responsibility for the preventable fire. — Extract-Minnesota Insurance Department Bulletin.

PROTECTION OF SOFT COAL IN STORAGE.

The subject of fire prevention and fire protection in piles of soft coal held in storage by industrial plants and transportation companies is a very grave one, and in view of the fact that America is not only called upon to end this war, but must necessarily be the dominant factor in rehabilitating the whole world after the War, there can be but one conclusion in the whole matter and that is coal must be stored in great quantities for many years to come. However, the great danger lies in the storing of coal by the inexperienced without a knowledge of the proper safeguard.

We find that coal piles fire in all degrees of temperature, even 30 to 40 degrees below zero. No set of rules can be laid down governing the piling of coal, as every coal pile is a law unto itself. Therefore, the only safe rule to follow in fire prevention is to call in an expert in the matter of not only fire prevention and control, but one who has acquired by experience special knowledge along the line of combustion in coal and that is a subject that even the best authorities disagree on.

Fighting fires in coal piles differ very much from fighting fires in free burning material. Until recently there has been but little development in the art of scientific fire extinguishment. Plain water has been relied upon throughout all the ages as a fire destroying agent. Fire produces flames and invisible heat which burns out an enormous vacuum or flue in the air, and the air rushes in at the base of combustion, becomes heated and arises. Therefore, a continuous circulating current of air prevails. The elements of water are combustible therefore an enormous fire and insufficient supply of water gives rise to large volumes of steam, aiding combustion, which circulates through the air vacuum created by the heat, thus adding intensity to the fire. A fire may be so intensified at a critical moment as to burst into a conflagration by the addition of water rather than be subdued. The only way water extinguishes fire is that enough must be thrown into the fire to absorb the heat without transforming into steam. When the flames and invisible heat are controlled the circulating current of air has been eliminated and the fire is under control. Science

shows that if enormous volumes of carbon dioxide gas which is one and a half times heavier than air could be released into a flame, the vacuum or flue in the air caused by the flame and invisible heat would be instantly stopped, preventing the onrushing current and the fire would be instantly extinguished. This can only be accomplished by the use of plain bicarbonate of soda and water without the addition of any other chemical. In the use of plain water in fire extinguishment, we have added the resultant steam which aids combustion until a certain cooling point obtains. In the use of bicarbonate of soda and water, we have a combination which has an instantaneous and distinctly opposite effect from that of plain water.

1. The quenching effect of the water.

2. Smothering effect of the carbon dioxide gas which is liberated at the surface of the burning material.

3. Smothering effect of the water vapor liberated by the chemical force.

4. Sealing and fire proofing effect of the solid, non-volatile chemical.

5. Chilling effect caused by the heat's absorption when the bicarbonate of soda is broken up by the heat.

It is unusually difficult to extinguish coal pile fires with plain water alone, as the water and steam peculiarly unites the burning coal, producing a cementing or coking effect, causing a crust to form which holds the heat in the coal pile. When the bicarbonate of soda is used in the water, the chilling, cooling and shrinking effect is so sudden that the cementing and coking of the coal is prevented.

Burning coal piles so hot firemen could not approach them have been so quickly cooled by soda and water as to permit in a few minutes of the firemen mounting the piles and jabbing soda water jets far into the burning coal and also permitting the immediate handling and shipping of the coal with safety.

There is no equal to this method in efficacy and economy and the carbon dioxide gas liberated neutralizes the smoke gases instantly, making the work practically free from danger.

It is much to be regretted that the firemen generally have not the opportunity to gain a technical knowledge in the art of scientific fire

extinguishment. The physical fitness of a fireman seems to have the only consideration. In these most critical times when patriotism demands the best there is in them, it is necessary to obtain the highest efficiency, that every fireman have a thorough schooling along scientific lines. Then he should have a relief from duty every day, and last but not least, no pay is too great for the man who takes his life in his hand to save the other fellow and his property.—Fire Engineer.

NUMBER OF FIRES REPORTED SHOWING VALUE OF PROPERTY, LOSS AND AMOUNT OF INSURANCE, JULY, 1918.

(Exclusive of Philadelphia and Pittsburgh.)

Counties.	Number of Fires.	Estimated Value.	Estimated Loss.	Amount of Insurance.
Adams,	6	$20,023	$9,262	$13,165
Allegheny,	44	296,489	21,283	190,600
Armstrong,	7	67,375	60,947	20,678
Beaver,	9	32,259	15,095	23,100
Bedford,	3	6,700	3,224	3,200
Berks,	27	87,103	14,323	72,220
Blair,	16	32,500	2,728	17,900
Bradford,	11	16,865	5,607	8,025
Bucks,	7	29,500	14,665	24,000
Butler,	4	13,207	7,781	5,500
Cambria,	13	47,839	1,133	29,650
Carbon,	2	4,800	3,218	3,600
Centre,	5	22,819	8,545	7,800
Chester,	7	25,450	3,178	14,110
Clarion,	3	4,600	3,615	1,900
Clearfield,	5	9,000	4,580	3,800
Clinton,	4	12,900	3,555	10,000
Columbia,	6	17,550	1,997	13,450
Crawford,	10	22,118	23,282	9,700
Cumberland,	6	19,837	16,060	10,012
Dauphin,	26	200,234	31,545	44,770
Delaware,	9	12,975	4,980	7,100
Erie,	48	1,827,024	18,608	1,161,657
Fayette,	9	135,557	16,897	34,800
Franklin,	11	29,250	16,555	10,750
Fulton,	3	4,150	1,950	1,525
Huntingdon,	4	4,800	2,533	3,400
Indiana,	4	5,750	3,757	3,300
Jefferson,	5	8,500	230	4,900
Juniata,	1	2,750	1,898	2,750
Lackawanna,	31	212,850	65,217	179,650
Lancaster,	33	396,947	70,767	359,535
Lawrence,	6	14,314	850	7,900
Lebanon,	9	23,090	11,147	13,085
Lehigh,	5	16,400	131	12,050
Luzerne,	44	387,719	29,943	222,600
Lycoming,	14	57,894	14,395	25,707
McKean,	3	2,350	1,438	2,000
Mercer,	11	53,750	10,422	32,800
Mifflin,	2	300,600	225,450	300,450
Monroe,	4	10,850	3,992	6,200
Montgomery,	30	149,030	57,285	76,324
Montour,	2	4,864	1,879	3,135
Northampton,	10	57,214	39,597	41,120
Northumberland,	11	156,300	62,659	60,916
Perry,	3	4,070	3,030	1,905
Pike,	2	9,000	5,150	2,600
Potter,	2	2,401	2,155	1,425
Schuylkill,	14	105,900	14,797	31,000
Snyder,	2	3,260	3,014	1,880
Somerset,	2	1,500	1,087	1,150
Sullivan,	2	2,775	135	1,900
Susquehanna,	11	52,350	43,668	25,350
Tioga,	4	3,425	3,046	1,400
Union,	4	8,900	5,409	3,800
Venango,	10	104,325	17,732	90,600
Warren,	4	10,600	55	9,400
Washington,	12	41,150	20,442	18,600
Wayne,	6	10,800	7,126	6,850
Westmoreland,	38	168,810	67,168	54,300
Wyoming,	4	8,300	6,760	3,650
York,	27	130,913	3,901	117,690
Totals,	677	$5,472,575	$1,126,932	$3,474,335

CLASS OF STRUCTURES DESTROYED OR DAMAGED BY FIRE, JULY, 1918.

(Exclusive of Philadelphia and Pittsburgh.)

Structures.	Number of Fires.	Loss.
Apartment houses, boarding houses and dwellings,	254	$78,886
Automobiles,	11	4,621
Barns and stables (city and town),	50	81,801
Chapels and churches,	4	834
Club, lodge and society rooms,	4	3,885
Electric Railway Property:		
Passenger cars,	1	25
Stations,	1	1,177
Farm crops in field,	2	51
Farm Property:		
Barns and stables,	109	260,134
Dwellings,	81	66,512
Outbuildings,	20	13,853
Garages, private,	4	1,225
Garages, public,	3	1,025
Hotels,	10	6,885
Junk shops and yards,	1	5,500
Livery and sale stables,	1	87
Manufacturing and Industrial Establishments:		
Agricultural implements,	1	500
Ammunition, high explosives and shells,	1	225,000
Bakeries,	1	15
Blacksmith shops,	1	250
Boxes,	1	10,787
Breweries,	2	529
Cement, concrete and stone,	1	325
Coal mining property,	1	55,000
Creameries,	1	22
Feed and flour,	2	23,872
Hosiery and knitting,	1	2,000
Ice cream,	2	1,100
Iron and steel blast furnaces, foundries and rolling mills,	6	720
Laundries,	1	25
Lumber yards,	1	100
Metal, miscellaneous,	2	1,900
Miscellaneous,	5	17,111
Saw mills,	1	6,800
Silk and lace,	2	54,900
Mercantile Establishments:		
Department stores,	1	10
Drugs and medicines,	1	75
General stores (rural),	5	6,386
Groceries,	2	265
Miscellaneous, with dwelling occupancy,	31	131,605
Photographers,	1	3
Restaurants,	4	15,743
Tailoring,	1	580
Wholesale groceries, produce and fruits,	1	18
Miscellaneous,	6	5,909
Outbuildings (city and town),	16	1,176
Railroad (Steam) Property:		
Bridges,	1	15
Freight depots,	1	4
Freight rolling equipment,	1	1,750
Tool houses, towers, water stations,	1	1,700
Road houses, saloons and taverns,	1	25
Schools, public,	2	36
Theatres and motion picture houses,	3	5,416
Warehouses and Storage:		
General storage,	6	5,887
Ice,	2	3,155
Tobacco,	1	9,717
Totals,	677	$1,126,932

MATERIALS USED IN CONSTRUCTION OF BUILDINGS DESTROYED OR DAMAGE BY FIRE, JULY, 1918.

(Exclusive of Philadelphia and Pittsburgh.)

Material.	Number of Fires.	Loss.
Brick,	76	$35,369
Brick and stone,	1	34
Concrete,	4	1,380
Stone,	8	12,011
Wood or frame,	554	980,576
Wood with brick or stone,	14	78,455
Unclassified,	14	6,712
Iron covered (galvanized),	3	620
Not reported,	3	1,775
Totals,	677	$1,126,932

CAUSES OF FIRES AND LOSS INCURRED, JULY, 1918.
(Exclusive of Philadelphia and Pittsburgh.)

Causes.	Number of Fires.	Loss.
Adjoining fires,	95	$141,975
Ashes (hot), careless disposal,	4	375
Backfire,	3	411
Candle carelessness,	3	201
Chimney, flues, stacks, defective and overheated,	18	14,927
Cigars and cigarettes (lighted), carelessly disgarded,	15	1,467
Clothing and curtains exposed to contact with stoves, heating appliances, and unprotected lights,	10	348
Electric, flat and gas iron carelessness,	6	178
Electric wiring, defective,	10	4,044
Explosions:		
Alcohol, gas and oil lamps,	2	1,645
Alcohol, gas and oil stoves and heaters,	21	5,884
Boiler,	1	7,232
Coal oil and kerosene, starting fires and filling lamps and lanterns,	2	5,000
Gas leak,	3	1,880
Gasoline, benzine, naphtha, careless use and cleaning with exposed to fire or unprotected lights,	2	650
Gasoline, pipe or storage leak,	3	3,000
Oils (inflammable), ignition,	1	25
Fireworks,	35	22,031
Furnaces, heaters, stoves, and their pipes, defective or overheated,	7	1,019
Fumigation,	2	75
Grease ignition on stove,	6	3,380
Incendiary,	5	6,120
Lamps and lanterns, overturned,	4	1,748
Lightning (buildings rodded),	3	7,155
Lightning (buildings not rodded),	45	100,810
Lghtning (no report as to rods),	121	70,448
Matches, careless use and keeping,	15	10,874
Matches, children,	39	9,127
Miscellaneous,	2	1,135
Motion picture apparatus and films,	2	1,250
Ovens (bakery), defective or overheated,	1	100
Plumbers' furnace, flareup,	1	5
Smoking in bed,	4	141
Sparks:		
Chimneys, flues, stacks, cupolas,	25	4,241
Forge,	1	500
Locomotive,	12	78,311
Running machinery (friction),	2	439
Rubbish and brush burning,	12	12,623
Stationary engines, tractors, etc.,	2	10,315
Spontaneous combustion,	8	12,930
Torch carelessness,	1	75
Undetermined,	119	572,003
Woodwork and furniture exposed to contact with stoves, heating appliances and unprotected lights,	2	45
Totals,	677	$1,126,932

INSPECTIONS
ORDERS ISSUED FOR THE REMOVAL OR REMEDY OF FIRE HAZARDS DURING OCTOBER, 1918.
(Exclusive of Philadelphia and Pittsburgh.)

Buildings Inspected.	Number of inspections.	Removal of or general repairs to dilapidated buildings.	Removal of rubbish and waste accumulation and regulating proper disposal thereof.	Repair chimney or stovepipe connections.	Repair roof.	Change or repair heating arrangement.	Change or repair lighting arrangement.	Install fire extinguishers, sand or water buckets.	Total.	Order unnecessary.
Apartment houses, boarding houses and dwellings,	6	5	2	1	1	0	0	0	9	0
Armories,	1	0	0	0	0	0	0	0	0	1
Banks and office buildings,	2	0	0	0	0	0	0	0	0	2
Barns and stables (city and town),	12	11	0	0	0	0	0	0	11	1
Billiard (pool) halls and bowling alleys,	6	1	0	0	0	0	0	0	1	5
Dance halls and pavilions,	1	0	0	0	0	0	0	0	0	1
Farm property—Barns and stables,	1	1	1	0	0	0	0	0	2	0
Garages, public,	11	0	2	0	0	0	0	0	2	9
Hospital and sanitariums,	104	0	1	0	0	1	2	41	45	62
Hotels,	1	0	0	0	0	0	0	0	0	1
Manufactory and Industrial:										
Automobiles and accessories,	2	0	0	0	0	0	0	0	0	2
Bakeries,	5	0	0	0	0	0	0	0	0	5
Boots and shoes,	1	0	0	0	0	0	0	0	0	1
Box,	3	0	0	0	0	0	0	1	1	2
Carriages and wagons,	1	0	0	0	0	0	0	0	0	1
Cigars and cigarettes,	13	0	0	0	0	0	0	0	0	13
Cleaning and dyeing,	1	0	0	0	0	0	0	0	0	1
Clothing (men's), linens, hats, caps and gloves,	11	0	0	0	0	0	0	0	0	11
Cobblers,	3	0	0	0	0	0	0	0	0	3
Feed and flour,	6	0	0	0	0	0	0	0	0	6
Hosiery and knitting,	1	0	0	0	0	0	0	0	0	1
Ice cream,	1	0	0	0	0	0	0	0	0	1
Iron and steel blast furnaces, foundries and rolling mills,	1	1	0	0	0	0	0	0	1	0
Laundries,	6	1	0	0	0	0	0	0	1	5
Leather goods and saddlery,	1	0	0	0	0	1	0	0	1	0
Machine and repair shops,	3	0	0	0	0	0	0	0	0	3
Miscellaneous,	3	0	0	0	0	0	0	0	0	3
Planing mills,	3	0	0	0	0	0	0	0	0	3
Plumbing and tinning,	6	0	0	0	0	0	0	0	0	6
Printing establishments,	2	0	0	0	0	0	0	0	0	2
Silk and lace,	3	0	0	0	0	0	0	0	0	3
Mercantile Establishments:										
Barber shops,	9	0	0	0	0	0	0	0	0	9
Boots and shoes,	11	0	1	0	0	0	0	0	1	10
Confectionery and ice cream,	8	0	0	0	0	0	0	0	0	8
Department and general stores,	22	0	0	0	0	0	0	0	0	22
Drugs and medicines,	17	0	0	0	0	0	0	1	1	16
Electrical and gas fixtures and supplies,	1	0	0	0	0	0	0	0	0	1

INSPECTIONS—Continued.

Buildings Inspected.	Number of inspections.	Removal of or general repairs to dilapidated buildings.	Removal of rubbish and waste accumulation and regulating proper disposal thereof.	Repair chimney or stovepipe connections.	Repair roof.	Change or repair heating arrangement.	Change or repair lighting arrangement.	Install fire extinguishers, sand or water buckets.	Total.	Order unnecessary.
Florists,	2	0	0	0	0	0	0	0	0	2
Flour, feed and hay,	1	0	0	0	0	0	0	0	0	1
Groceries,	66	0	2	0	0	0	1	1	4	64
Hardware,	15	0	1	0	0	0	0	0	1	14
House furnishings,	12	0	3	0	0	0	0	0	3	9
Jewelry,	8	0	0	0	0	0	0	0	0	8
Ladies' furnishings,	4	0	0	0	0	0	0	0	0	4
Leather goods and harness,	1	0	0	0	0	0	0	0	0	1
Meats,	6	0	0	0	0	0	0	0	0	6
Men's furnishings,	6	0	0	0	0	0	0	0	0	6
Millinery,	3	0	0	0	0	0	0	0	0	3
Miscellaneous, with dwelling occupancy,	46	0	5	0	0	0	1	6	12	39
Musical instruments,	3	0	0	0	0	0	0	0	0	3
Notions and novelties,	21	0	0	0	0	0	0	0	0	21
Stationery and wall paper,	6	0	0	0	0	0	0	0	0	6
Tailoring,	6	0	0	0	0	0	0	0	0	6
Tobaccos and cigars,	5	0	1	0	0	0	0	1	2	4
Wholesale groceries, produce and fruits,	5	0	0	0	0	0	0	1	1	4
Miscellaneous,	1	0	0	0	0	0	0	0	0	1
Outbuildings (city and town),	4	4	0	0	0	0	0	0	4	0
Postoffice,	2	0	0	0	0	0	0	0	0	2
Warehouses and Storage:										
General storage,	4	1	0	0	0	0	0	0	1	3
Household furniture,	1	0	0	0	0	0	0	0	0	1
Totals,	517	25	19	1	1	2	4	52	104	428

PREVENT FIRES BY CLEANING CHIMNEYS AND FLUES.

Dirty chimneys and flues are responsible for many fires. This can and should be prevented by properly cleaning all chimneys and flues at frequent intervals, and if done would result in the saving of thousands of dollars annually.

As an example of what can be done to lessen the fire waste, St. Joseph, Missouri, has the unusual municipal official known as "chimney sweep," who goes by that title and is appointed by the mayor for a two-year term and who is required to execute a bond for the faithful performance of his duties. These duties are "to sweep and clean in a faithful manner, once in each year, all chimneys within the limits of the city which have been in use at least six months prior to the date of such cleaning." Also "Whenever he shall have knowledge of a defective flue in any building in this city, to report the same without delay to the superintendent of buildings." Where a defective flue is so reported, the superintendent of buildings notifies the owner, and if he fails or neglects to repair the defective flue within twenty-four hours he is liable to a fine of not less than twenty nor more than one hundred dolars, each day thereafter being a separate offence. It is the duty of the owner or occupant of any building to have the chimneys and flues of such buildings swept and cleaned and the soot and other matter taken therefrom and removed from the premises by the chimney sweep at least once a year, and anyone who fails to do so may be fined not less than five nor more than ten dollars. The chimney sweep receives from the owner of the building 25 cents a chimney for a one-story house, 50 cents for a two-story house and 25 cents for each additional story.

Concerning the results of providing such an officer, Joseph McBeth, inspector of the St. Joseph Fire Prevention Bureau, states that last year 2,500 flues were cleaned and 800 defective ones were repaired. This year, so far as he knows, very few defective flues have been found and these have been repaired by the chimney sweep or by bricklayers.

Why cannot every city, borough, and town in Pennslyvania adopt a similar method of Fire Prevention and a reduction of the useless fire waste?

A CITIZEN'S DUTY.

Every citizen of Pennsylvania should consider himself an Assistant to the State Fire Marshal.

Every individual should equip himself to serve his state and nation by safeguarding to the extent of his intelligence and ability every form of natural and created resource.

The National Fire Prevention Association in its warfare against needless sacrifice of human lives and property advocated the following measures:

1. The adoption by municipalities of a Standard Building Code to the end that fire-resistive building construction may be encouraged, the use of inflammable roof coverings prohibited, adequate exit facilities from buildings assured, and interiors so designed and fire-stopped as to make easy the extinguishment of fires therein.

2. The adoption by all states of minimum building requirements for the protection of state and county hospitals, schools, asylums and similar institutions outside city limits and of small communities in which the establishment and enforcement of a building code is impracticable.

3. The enactment by each state of the fire marshal law to the end that official investigation may be made of the causes of all fires, that preventable fires may be eliminated by public education, and the crime of arson stamped out.

4. The adoption of an ordinance providing for the systematic inspection of all buildings by city fire marshals or local firemen to insure the vigorous enforcement of rules for cleanliness, good housekeeping, and the maintenance of safe and unobstructed exits, fire-fighting apparatus and other protective devices.

5. The enactment of ordinance similar to that of Pennsylvania. fixing the cost of extinguishing preventable fires upon citizens disregarding fire prevention orders, and a more general legal recognition of the common law principle of personal liability for damage resulting from fires due to carelessness or neglect.

6. The wider general use of the automaatic sprinkler as a fire extinguishing agent and life saver and the more general adoption of the fire division wall as an important life-saving exit facility.

7. A careful study of the technical surveys of cities made by engineers covering the items of water supplies, their adequacy and reliability, fire department efficiency, fire alarm systems and conflagration hazards, and of the possibility of co-operation among neighboring cities through mutual aid and the standardization of hose couplings.

8. The adoption of the association's suggested laws and ordinances for state and municipal regulation of the transportation, storage and use of inflammable liquids and explosives.

9. The universal adoption and use of the safety match and legislation prohibiting smoking in all parts of factories, industrial and mercantile buildings except in such fire-proof rooms as may be specially approved for the purpose by fire departments.

10. The education of children and the public generally in careful habits regarding the use of fire.

11. The co-ordination of all these activities, through a central administrative officer or body of the state or city having primary jurisdiction, for the purpose of promoting uniformity of action and efficient co-operation.

In the furtherance of these objects the State Fire Marshal appeals for the co-operation of all citizens to the end that the lives and substance of our people shall not continue to be dissipated by a reckless and easily preventable waste.—Extracts from Minnesota Fire Marshal Bulletin.

PROVIDE PROTECTION FROM FIRE.

Every dwelling should be provided with some ready means for quickly extinguishing a fire wherever it may occur. Neglect to do this is a violation of ordinary common sense.

One or more approved 2½ gallon chemical fire extinguishers should be placed, where ready for instant use and not subject to freezing, in every house. Such devices can be purchased for a few dollars each, and are most effective in the early stages of a fire. Their intelligent use during the first few minutes of a fire will usually extinguish it, and are often more valuable than a whole fire brigade which must first be summoned and then perhaps travel half a mile or more to reach the building. Large dwellings should have several of these extinguishers located on different floors where easy of access. One should always be in or near the kitchen.

Every able bodied member of the family should be instructed how to use such devices. Be sure the extinguishers are refilled once a year. This is a simple operation which takes only a little time, and costs but a few cents; if neglected, they may fail to be efficient.

If gasoline, kerosene, or other highly inflammable liquids not easily extinguished by water, are used in the home, at least one extinguisher using a carbon tetrachloride compound as the extinguishing agent should be provided. That type of extinguisher is particularly effective in putting out such fires. One or more of them should always be provided in the garage.

Care should be used when using extinguishers of this class, as when thrown upon a fire it produces a dense pungent smoke which is disagreeable, but not dangerous, unless inhaled to excess. Avoid breathing the smoke as much as possible, and stay and fight the fire until the extinguisher is dry.

A pail of sand, dry earth, salt, or even sawdust is also very useful in extinguishing fires in inflammable liquids. Always keep on hand a small scoop or shovel to apply dry materials. If such fires are not too large they may often be smothered by covering with a rug or blanket. Water will spread such burning fluids rather than extinguish them.

A garden hose stored where handy for quick attachment to a service pipe in the cellar or basement, or outside the house in warm weather, is a very excellent fire protective appliance.

A pail of water is the most primitive fire extinguisher known, and is valuable if available during the first few mintues after a fire starts; but there are few places in a dwelling where pails of water can be kept exclusively for this purpose without being unsightly or in the way. Furthermore they must be used at short range and with considerable skill to be effective. For all general purposes an extinguisher which will throw a small stream some distance with considerable force, is far more reliable.

For a chimney fire a few pounds of salt thrown in at the top is probably the best handy extinguisher; but a pail of sand, earth, ashes or even coal will be very helpful. If a fireplace connects with the chimney, the latter materials are not desirable to use, since they are liable to scatter the burning soot into the room where the fireplace is located.—Extracts from Fire Engineer.

RECENT ACT OF CONGRESS EFFECTIVE WEAPON AGAINST ARSON.

The act was approved by President Wilson, April 20, 1918, and is entitled "An Act to punish the willful injury or destruction of war material, or of war premises or utilities used in connection with war material, and for other purposes." It provides a punishment by fine of not to exceed $10,000 or for imprisonment for not more than thirty years or both.

The definitions in the Act are so comprehensive that they include not only munitions and supplies intended for the use of the military or naval forces of the United States or of the Allies but likewise include all munitions, supplies and articles of every description adapted to or suitable for the United States or any of the Allies.

The Act reads as follows:

"(Public—No. 135—65th Congress.)
(S. 383.)

An Act to punish the willful injury or destruction of war material, or of war premises or utilities used in connection with war material, and for other purposes.

BE IT ENACTED BY THE SENATE AND HOUSE OF REPRESENTATIVES OF THE UNITED STATES OF AMERICA IN CONGRESS ASSEMBLED, That the words 'war material,' as used herein, shall include arms, armament, ammunition, livestock, stores of clothing, food, foodstuffs, or fuel and shall also include supplies, munitions, and all other articles of whatever description, and any part or ingredient thereof, intended for, adapted to, or suitable for the use of the United States, or any associate nation, in connection with the conduct of the war.

The words 'war premises,' as used herein, shall include all buildings, grounds, mines, or other places wherein such war material is being produced, manufactured, repaired, stored, mined, extracted, distributed, loaded, unloaded, or transported, together with all machinery and appliances therein contained; and all forts, arsenals, navy yards, camps, prisons, or other military or naval stations of the United States, or any associate nation.

The word 'war utilities,' as used herein, shall include all railroads, railways, electric lines, roads of whatever description, railroad or railway fixture, canal, lock, dam, wharf, pier, dock, bridge, building, structure, engine, machine, mechanical contrivance, car, vehicle, boat, or aircraft, or any other means of transportation whatsoever, whereon or whereby such war material or any troops of the United States, or of any associate nation, are being or may be transported either within the limits of the United States or upon the high seas; and all dams, reservoirs, acqueducts, water and gas mains and pipes, structures and buildings, whereby or in connection with which water or gas is being furnished, or may be furnished, to any war premises or to the military or naval forces of the United States, or any associate nation, and all electric light and power, steam or pneumatic power, telephone and telegraph plants, poles, wires, and fixtures and wireless

stations, and the buildings connected with the maintenance and operation thereof used to supply water, light, heat, power, or facilities of communication to any war premises or to the military or naval forces of the United States, or any associate nation.

The words 'United States' shall include the Canal Zone and all territory and waters, continental and insular, subject to the jurisdiction of the United States.

The words 'associate nation,' as used in this Act, shall be deemed to mean any nation at war with any nation with which the United States is at war.

Sec. 2. That when the United States is at war, whoever, with intent to injure, interfere with, or obstruct the United States or any associate nation in preparing for or carrying on the war, or whoever, with reason to believe that his act may injure, interfere with, or obstruct the United States or any associate nation in preparing for or carrying on the war, shall willfully injure or destroy, or shall attempt to so injure or destroy, any war material, war premises, or war utilities, as herein defined, shall, upon conviction thereof, be fined not more than $10,000 or imprisoned not more than thirty years, or both.

Sec. 3. That when the United States is at war, whoever, with intent to injure, interfere with, or obstruct the United States or any associate nation in preparing for or carrying on the war, or whoever, with reason to believe that his act may injure, interfere with, or obstruct the United States or any association nation in preparing for or carrying on the war, shall willfully make or cause to be made in a defective manner, or attempt to make or cause to be made in a defective manner, any war material as herein defined, or any tool, implement, machine, utensil, or receptacle used or employed in making, producing, manufacturing, or repairing any such war material, as herein defined, shall, upon conviction thereof, be fined not more than $10,000 or imprisoned not more than thirty years, or both."

Approved April 20, 1918.

THE EXPLOSIVES LAW.

The Purpose of the Law Is: To prevent disloyal persons from procuring explosives, or their ingredients, and to keep explosives, or their ingredients, out of the hands of persons who will not protect them from being stolen or being used for unlawful purposes.

REQUIREMENTS OF THE LAW: Every user of explosives, or their ingredients, every dealer in explosives, or their ingredients, and every person who possesses explosives, or their ingredients, must obtain a license from the U. S. Government — or subject himself to a $5,000 fine or imprisonment for one year or both. No license is required for small arms or shotgun cartridges or ingredients of explosives in quantities of less than one ounce.

WHERE TO APPLY FOR LICENSES: Licensing agents have been appointed for every county in Minnesota, usually the County Auditor or Clerk of the District Court, and additional persons will be authorized to issue licenses if the number of licenses to be issued necessitates it. Those requiring licenses must make application in person to the Licensing Agent. The total cost of the license is 25 cents.

KINDS OF LICENSES: Your attention is directed particularly to three classes of licenses, namely, the Purchaser's, the Vendor's and the Foreman's. A person desiring to procure explosives, or their ingredients, for his own use, will require a Purchaser's License; if he desires to sell explosives, or their ingredients, he will require a Vendor's License; and if he conducts his business through a superintendent, foreman or boss, or other employee, who issues explosives from a magazine to workmen, it will be necessary for the licensee to procure a foreman's license, in adition to a purchaser's license— in such case the foreman must appear in person and take out the license in his own name as foreman of the employing person.

Application for license as manufacturer, exporter, importer, analyst, educator, inventor and investigator, should be made to the Bureau of Mines, Washington, D. C.

A federal license will not relieve any person from complying with state laws or local ordinances, or from procuring any license required under such laws, and ordinances. Detailed instructions may be had from local licensing agents.

A record of all sales of explosives or their ingredients must be kept.

Report all violations of the law at once to John W. Rittenhouse, U. S. Inspector of Explosives, 514 Union Bank Building, Scranton.

C 1

MONTHLY BULLETIN

"MAKE PENNSYLVANIA FIREPROOF"

Department

OF THE

State Fire Marshal

OF

Pennsylvania

OFFICE—ROOM 166
Capitol Building, Harrisburg, Pa.
HOWARD E. BUTZ, State Fire Marshal

VOL. VI JANUARY, 1919 No. 34

P2152.
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1919.

WITH TRUE THANKFULNESS IN OUR HEARTS WE FIND OURSELVES AT THE BEGINNING OF A NEW YEAR. A YEAR AGO THE WORDS PEACE ON EARTH, GOOD WILL TOWARDS MEN SEEMED A MOCKERY, BUT AT THIS TIME THEY ARE MUSIC TO OUR EARS AND TRULY EXPRESS OUR FEELINGS OF GRATEFULNESS.

IN THE MIDST OF OUR REJOICING LET US PAUSE TO GIVE HONOR TO THOSE HEROES WHO HAVE FOUGHT AND DIED IN OUR BATTLES. MAY THE GOLDEN STARS THAT SYMBOLIZE THEIR SUPREME SACRIFICE SHINE WITH THE RADIANCE OF THAT FIRST CHRISTMAS STAR THAT HERALDED OUR UNIVERSAL BROTHERHOOD.

THOSE HOMES SADDENED BY THE LOSS OF ONES HELD DEAR CAN REJOICE THAT THE GRIM WAR IS OVER; THOSE HOMES WHERE THOSE NEAREST HAVE NOT YET COME BACK CAN REJOICE THAT THE HOME COMING WILL NOT BE LONG DELAYED; EACH AND EVERY ONE OF US CAN FIND SOMEWHERE A REAL REASON FOR A DISPLAY OF CHRISTIAN SPIRIT.

ACCEPT FROM THE STATE FIRE MARSHAL THE BEST WISHES AND SINCERE HOPES FOR A VERY HAPPY NEW YEAR.

Vol. VI. No. 34.

Monthly Bulletin

Department

OF THE

State Fire Marshal

OF

Pennsylvania

HOWARD E. BUTZ, State Fire Marshal

BULLETIN OF INFORMATION FOR THE PUBLIC

JANUARY, 1919

HARRISBURG, PENNA.:
1919

HAZARDS IN HOMES.

Fires in the Home are easier to prevent than to extinguish.

Unlike factory fires, many of which are due to causes inseparable from manufacturing, practically every dwelling house fire is due to carelessness or neglect. Especial care should be taken in the home to prevent fires from starting, because when they do start there is seldom a man about to extinguish them. Where women and defenseless children are housed, every human consideration demands the utmost vigilance on the part of those responsible for their welfare.

If the suggestions in this bulletin are understood and heeded, many a life may be saved and many a home successfully guarded against destruction by fire.

1. HOUSEKEEPING. The attic, cellar and all closets and outbuildings should be cleaned at least once every year, and all useless material and rubbish removed therefrom and burned. These unnecessary accumulations are dangerous, and are the causes of many fires. Store all remaining material neatly so that a clear passage may be had between or around boxes, cases, barrels, etc.

Metal waste baskets, only, should be used.

In storing clothing, first remove all matches or other material from the pockets and then carefully fold and neatly place away. Do not hang clothes where they will be near hot chimneys.

Do not go into closets with lighted matches or candles.

Care should be exercised in burning leaves, dead grass or rubbish. Keep these fires a safe distance from buildings, and never light them on windy days.

Do not bank houses in the winter with straw, excelsior or other readily inflammable material: a chimney spark or carelessly thrown match may ignite it.

2. MATCHES. Use only safety matches, and make it impossible for children to get them. Always place burned matches in metal receptacles: never throw them on the floor or into waste baskets.

3. SMOKING. To smoke in garages, in bed, or around stables containing hay is deliberately to invite disaster.

4. LIGHTING HAZARDS. Swinging gas brackets are dangerous, and never should be allowed near curtains or dressers. Fix them rigidly so as to avoid contact with combustible material. If open gas flames are within two feet of ceiling, see that ceiling is protected with sheet metal or asbestos board. Tips for gas lights are inexpensive, while a light used with a broken tip or without a tip often causes fire. Don't use pendant gas mantles unless protected underneath with wire gauze. Hot carbon deposits form and drop from mantles of gas arc lamps. A glove closed at the bottom is safer.

Examine the gas meter, see that it is securely set and well connected, and is not located near open lights or furnaces. An outside gas shut-off valve to service-connection is desirable. Never look for gas leaks with a match, candle or lamp.

Where a dwelling is lighted by a gasoline vapor or acetylene gas system the rules governing the safe use of these illuminants should be carefully studied and rigidly observed.

Illuminating oils should be kept in closed metal cans in a safe place, and lamps should never be filled except by daylight. Kerosene lamps should be kept clean and properly trimmed. If allowed to burn all night, select one that contains much more than enough oil. A dirty lamp containing only a little oil is unsafe. Lamps with broad bases are preferable. Care must be taken not to place them near inflammable material, under shelves, nor to set or leave lamps or lanterns in stables or other places where animals may upset them. Never allow litle children to carry lamps, and never set a lamp on a table cover. Children may pull them over.

Do not use paper or decorative shades of inflammable material on lamps or electric light bulbs.

Electricity is a hidden hazard, and extends throughout the wire system in a building. Be sure it is safely installed, and have the system carefully inspected and passed upon by a recognized electrical inspector. Many fires are due to defective electric wiring. Do not destroy the insulation on electric light, fan or heater wires by hanging them on hooks or nails. Immediately repair or replace any defective switches, fuses, sockets, etc. A fuse is the "safety valve" of an electric system, and should never be replaced by one of larger size or any other material.

Before attaching electric irons, vaccuum cleaners, cooking utensils or any other electrical device to your lighting circuts or sockets, con-

sult an electrician as to the ability of your wiring to withstand this additional load. Electric wiring systems are designed to carry only a certain current, and if overloaded may cause fires. Numerous fires have been caused by leaving electric irons with the current on. Disconnect them immediately when through using.

5. HEATING HAZARDS. Coal and kindling should preferably be kept withing a brick or stone enclosure and not stored against frame partitions nor directly against walls of boiler or furnace rooms.

Never put kindling into the oven.

Deposit all ashes in metal receptacles or upon non-combustible floors, removing same from building at least once a week. Barrels or boxes should not be used for storing or carrying ashes unless they are constructed entirely of metal.

Before starting fires in the autumn, thoroughly clean out furnace and flues thereto, also fireplaces. Carefully examine them and immediately repair or replace any defective part. Don't burn out chimneys and flues by making an especially hot fire with paper, etc. Main chimneys should be cleaned from roof to cellar, and all stovepipes where entering them provided with metal collar and rigidly fixed in place. Replace any tile, crock of flimsy flues and chimneys with substantial brick chimneys. Long lengths of metal stovepipe are dangerous

At least an eighteen-inch clearance is necessary between top and sides of furnace, breeching and flues from ceiling, partitions, and other combustible material. Repair at once any broken plaster in ceiling or partition walls.

Do not have steam pipes in contact with wood work or near inflammable materials, and do not permit rubbish to accumulate behind steam coils or radiators.

Gas stoves or other heaters should have a ventilating flue to carry off the burned gas fumes, which are poisonous. Do not use portable rubber or similar tubing, but connect all gas stoves rigidly and securely with gas pipe. Examine valves and see that they are tight and do not leak.

Never permit a stove of any kind to be set up without stone, brick, concrete or metal protection underneath, or near a partition without a metal shield and air space.

Never run stovepipes through partitions, or paste paper over flue holes.

All types of open fireplaces or stoves, especially where there are children, should be provided with substantial spark screens.

Don't throw waste paper on an open fire.

Every period of extreme cold results in numerous fires due to forcing the heating apparatus. Keep this in mind next winter. Watch your heater.

Keep hoods and pipes of kitchen range free from grease and lint by cleaning with hot water and lye.

Do not hang clothes or bags near stoves, or on stovepipes or steam pipes.

Do not allow your family to jeopardize their lives by pouring kerosene onto the kitchen fire to hurry it along.

Extreme care should be used with alcohol or kerosene stoves. They should always be filled in the daylight and away from any open flame.

6. GASOLINE AND EXPLOSIVES. Do not use patent cleaning fluids, polish or chemicals unless you know something about them. Many of these contain explosives and oils of a dangerous character.

Do all gasoline cleaning in the open air, and caution the members of the family to refrain from using gasoline or like volatiles in the house. This material should not be kept in the house nor in glass bottles.

Beware of rags or cloths used in oiling floors or cleaning or polishing furniture. They may ignite spontaneously. Be sure and burn them after using. Leaving them about for only a few hours may mean a fire.

7. FIRE PROTECTION. One or more approved chemical fire extinguishers should be placed in every home. They must be protected against freezing.

It is well to see that the garden hose may be attached to the kitchen faucet.

8. THE FAMILY GARAGE. Never allow open flame lights in a garage. Run the auto outside when filling the tank so that gasoline vapors will dissipate.

Do not keep quantities of gasoline or calcium carbide inside of garage or dwelling. An approved underground storage tank is the safest method for keeping gasoline.

A metal waste can should be located at a convenient place outside the garage for all waste and greasy rags. Burn these every week.

It is unsafe to use sawdust or shavings to absorb grease and oil in a garage. If the floor is wooden, scrub it occasionally with hot water and lye.

The use of gasoline for cleaning parts of the automobile in the garage is a dangerous thing.

The garage should not be heated by means of stove or open fire of any kind, unless same is isolated in another room so that the gasoline vapors of garage cannot possibly get to it. Gasoline vapor travels.

Keep an approved fire extinguisher and a pail of sand in garage. Water thrown on burning gasoline merely serves to spread it.

9. IN GENERAL. Have the telephone number of the nearest fire station on a special card at your telephone.

Familiarize the family with the operation of the nearest fire alarm box. After operating a fire alarm, stay near it to direct the firemen to the fire. Every minute is significant.

Don't fail to notify the chief of the fire department of anything you may see that is dangerous or liable to cause fire.

"FIRE DRILL SAVES CHILDREN."

This heading in a recent newspaper published in central Pennsylvania conveyed more emphasis on the subject to which it has reference than anything but a catastrophe itself. The article over which it was written is herewith reprinted:

> "Fire drill discipline averted a panic when a heat pipe started a fire in a public school today. Five hundred children marched out in perfect order in less than a minute."

Just a thought as to the result if the principal and teachers of this school had neglected the maintenance of fire drills.

The advocation of fire drills in public schools, as well as in factories and other places of industrial and commercial assembly, has been for years vigorously urged by the State Fire Marshal Department, and will always remain one of its important functions of endeavor. The

safety of the precious lives of our children should always be paramount in our minds, and to everyone to whom this article may come under observation should come the awakening of their individual responsibility to promote this security.

Are your children receiving fire drill discipline in the schools they are attending? This question it not intended to alarm parents, but it is written to impress upon all the seriousness and necessity of preparedness in an emergency.

In cooperation with the Superintendent of Public Instruction of Pennsylvania, the State Fire Marshal Department has prepared rules and regulations for observance of fire drills in the public schools of this State, and it is the duty of all citizens to interest themselves in this promotion of safety, and where fire drills are not being maintained to have the matter taken up with the proper authorities so that such drills are made a part of the curriculum.

Alike with industrial and commercial establishments. A system of fire drills can be properly arranged, and by their observance once a week, employers can feel the assurance that in an emergency they have educated their employes to meet it. Some previous catastrophes have proven that fire drills would have averted panic and loss of life. Loss of life through neglect of fire drill discipline where it is required is a crime.

WATCH THE FIRE HYDRANT.

Many disastrous fires occur during the winter season, and in a number of instances records show that the resultant loss was principally caused by reason of an inadequate water supply to fight the fire, owing to the freezing of hydrants. Permitting such to exist is unnecessary, and extremely serious conditions. Proper attention and care of hydrants should be given to avoid losses of this character, as they are absolutely preventable. Hydrants should be regularly examined and particularly so before freezing weather sets in. See that all the water is drawn from the barrel of hydrant and that it is perfectly dry, close the main valve of hydrant and be sure it is perfectly tight. Examine for leaks; see if the ground surrounding hydrant contains standing water at an elevation above the drip opening;

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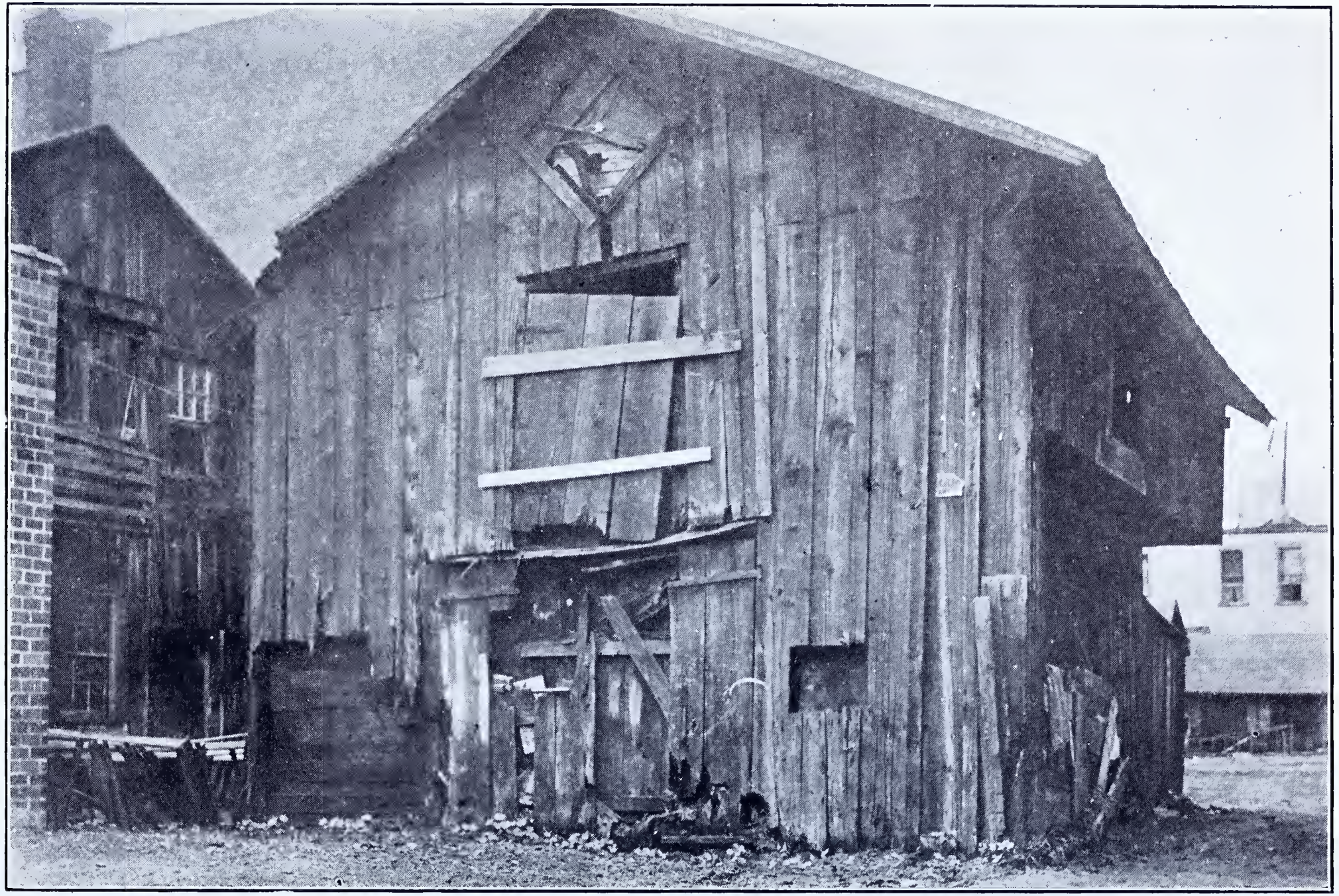

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if so, correct the defect to prevent water running into the barrel, and should occasion arise necessitating the use of hydrant during freezing weather do not leave it until it is thoroughly drained and the valve tightly closed. Precautionary measures of this nature may be the means of conserving thousands of dollars.

NUMBER OF FIRES REPORTED SHOWING VALUE OF PROPERTY, LOSS AND AMOUNT OF INSURANCE, AUGUST, 1918.

(Exclusive of Philadelphia and Pittsburgh)

Counties.	Number of fires.	Estimated value.	Estimated loss.	Amount of insurance.
Adams,	14	$80,724	$25,865	$34,624
Allegheny,	68	296,554	15,452	192,300
Armstrong,	6	30,170	9,543	15,350
Beaver,	5	14,010	488	11,200
Bedford,	7	10,508	4,630	7,550
Berks,	24	193,205	16,205	111,825
Blair,	24	60,900	4,258	41,800
Bradford,	15	58,730	26,500	33,265
Bucks,	14	60,800	30,958	31,675
Butler,	2	6,200	6,200	2,700
Cambria,	17	45,702	7,585	26,500
Cameron,	2	2,157	2,056	1,200
Carbon,	4	6,950	5,600	5,100
Centre,	6	68,350	30,669	49,700
Chester,	8	179,429	8,938	37,850
Clarion,	3	8,900	117	4,600
Clearfield,	24	72,654	43,455	25,450
Clinton,	7	12,527	6,799	5,030
Columbia,	12	19,579	5,646	14,200
Crawford,	10	55,006	34,530	17,215
Cumberland,	6	12,356	1,871	11,206
Dauphin,	6	16,500	674	12,150
Delaware,	10	196,625	51,248	186,900
Elk,	2	7,580	5,600	2,000
Erie,	47	500,830	97,516	334,695
Fayette,	10	23,450	4,835	13,000
Franklin,	19	60,243	19,715	43,561
Fulton,	2	5,234	4,084	1,500
Greene,	1	1,000	300	300
Huntingdon,	9	19,592	6,169	7,625
Indiana,	12	33,600	13,961	22,375
Jefferson,	12	24,749	10,958	16,550
Juniata,	1	650	650	650
Lackawanna,	21	74,700	2,513	50,400
Lancaster,	17	62,925	44,191	41,353
Lawrence,	4	34,563	6,172	24,950
Lebanon,	3	14,500	12,063	8,825
Lehigh,	12	111,147	6,658	70,705
Luzerne,	60	211,805	46,658	126,525
Lycoming,	17	49,700	13,454	28,730
McKean,	4	7,060	363	4,740
Mercer,	12	37,168	14,413	12,198
Mifflin,	2	9,690	9,100	2,825
Monroe,	1	450	385	450
Montgomery,	19	175,850	46,102	137,125
Montour,	5	127,400	455	24,300
Northampton,	7	14,800	1,110	9,200
Northumberland,	8	43,700	22,610	22,500
Perry,	1	75,000	30	2,500
Pike,	2	6,700	6,005	2,700
Potter,	1	600	25	600
Schuylkill,	14	172,125	9,553	106,550
Snyder,	3	4,050	1,700	2,150
Somerset,	6	13,818	7,643	7,925

NUMBER OF FIRES REPORTED SHOWING VALUE OF PROPERTY, LOSS AND AMOUNT OF INSURANCE, AUGUST, 1918—Continued.

Counties.	Number of fires.	Estimated value.	Estimated loss.	Amount of insurance.
Sullivan,	2	4,010	4,010	2,166
Susquehanna,	14	27,251	17,901	13,450
Tioga,	7	20,503	12,429	12,727
Union,	1	2,200	1,517	1,517
Venango,	2	2,300	41	1,800
Warren,	6	9,150	6,359	3,900
Washington,	9	49,350	9,268	36,800
Wayne,	7	9,350	524	5,750
Westmoreland,	24	88,280	20,874	51,000
Wyoming,	4	45,072	5,020	29,072
York,	5	13,651	3,840	10,100
Totals,	709	$3,698,332	$837,906	$2,204,779

CLASS OF STRUCTURES DESTROYED OR DAMAGED BY FIRE, AUGUST, 1918.

(Exclusive of Philadelphia and Pittsburgh)

Structures.	Number of fires.	Loss.
Apartment houses, boarding houses, dwellings,	283	$65,844
Automobiles,	9	1,597
Bank and office buildings,	2	115
Barns and stables (city and town),	31	32,864
Chapels and churches,	12	17,017
Club, lodge and society rooms,	2	11,420
Electric Railway Property:		
Passenger cars,	1	15
Miscellaneous,	1	5
Farm crops in field,	3	522
Farm Property:		
Barns and stables,	149	384,271
Dwellings,	86	57,229
Outbuildings,	9	5,005
Fire department houses,	1	12,300
Garages—private,	4	3,041
Garages—public,	3	7,040
Hospitals and sanitariums,	1	40
Hotels,	6	8,187
Junk shops and yards,	1	2,300
Manufacturing and industrial establishments:		
Bakeries,	3	3,809
Blacksmith shops,	1	50
Bottling works,	1	10
Carriage and wagons,	1	15
Cement, concrete and stone,	1	17,000
Food products—variety,	1	2,831
Glass,	1	130
Ice,	2	55,805
Iron and steel, blast furnaces, foundries, rolling mills,	3	5,045
Laundries,	1	5
Metal—miscellaneous,	2	155
Miscellaneous,	1	11
Planing mills,	3	36,500
Printing establishments,	2	170
Saw mills,	2	648
Coal mining property,	1	200
Mercantile establishments:		
Barber shops,	1	1,800
Department stores,	1	3,000
General stores (rural),	2	8,173
Groceries,	1	20
Hardware,	1	9,000
Ladies furnishings,	1	30
Meat,	2	205
Miscellaneous with dwelling occupancy,	38	66,971
Restaurants,	2	30
Tailoring,	4	1,362
Miscellaneous (mercantile),	6	1,861
Motorcycles,	1	10
Outbuildings (city and town),	5	580
Railroad (Steam) Property:		
Bridges,	1	5
Freight rolling equipment,	2	5,020
Miscellaneous,	2	330

CLASS OF STRUCTURES DESTROYED OR DAMAGED BY FIRE, AUGUST, 1918—Continued.

Structures.	Number of fires.	Loss.
Schools—Public,	2	163
Theatres and motion picture houses,	1	808
Warehouses and Storage:		
General storage,	6	7,332
Totals,	709	$837,906

MATERIALS USED IN CONSTRUCTION OF BUILDINGS DESTROYED OR DAMAGED BY FIRE, AUGUST, 1918.

(Exclusive of Philadelphia and Pittsburgh)

Material.	Number of fires.	Loss.
Brick,	93	$100,422
Brick and stone,	1	150
Concrete,	1	150
Fireproof,	1	5,000
Stone,	13	20,276
Wood or frame,	564	620,984
Wood with brick or stone,	13	80,040
Unclassified,	20	2,599
Iron covereed (galvanized),	1	5
Not reported,	2	8,280
Totals,	709	$837,906

CAUSE OF FIRE AND LOSS INCURRED, AUGUST, 1918.

(Exclusive of Philadelphia and Pittsburgh)

Causes.	Number of fires.	Loss.
Adjoining fires,	38	$76,699
Ashes (hot)—careless disposal,	2	17
Backfire,	6	1,170
Candle carelessness,	6	533
Chimney, flues, stacks—defective and overheated,	13	9,110
Cigars and cigarettes (lighted)—carelessly discarded,	7	123
Clothing and curtains exposed to contact with stove, heating appliances and unprotected lights,	8	266
Coals (hot)—falling from stove or furnace,	1	100
Drunkard's carelessness,	1	1,000
Electric, flat and gas iron carelessness,	8	484
Electric wiring—defective,	14	9,714
Explosions,	4	12,285
Alcohol, gas and oil lamps,	4	98
Alcohol, gas and oil stoves and heaters,	17	13,314
Chemicals and acids,	1	325
Coal oil and kerosene—starting fires and filling lamps and lanterns,	1	675
Gas leak,	2	1,786
Gasoline, benzine, naphtha—careless use and cleaning with exposed to fire or unprotected lights,	2	165
Gasoline—pipe or storage leak,	3	7,172
Oils (inflammable)—ignition,	2	15
Furnaces, heaters, stoves and their pipes—defective or overheated,	7	651
Fumigation,	1	5
Grease ignition on stove,	3	3,105
Incendiary,	7	20,396
Lamps and lanterns—overturned,	4	2,442
Lightning (buildings rodded),	5	12,341
Lightning (buildings not rodded),	62	127,282
Lightning (no report as to rods),	304	170,781
Matches—careless use and keeping,	21	7,266
Matches—children,	12	972
Metals (hot), asphalt, tar, pitch, etc.—ignition of,	3	4,525
Miscellaneous,	3	103
Motion picture apparatus and films,	2	863
Ovens (bakery)—defective or overheated,	1	1,600
Smoking in bed,	5	4,376
Smoking meats,	1	400
Sparks,	1	5
Chimneys, flues, stacks, cupola (exposure—adjoining fires),	18	1,337
Forge,	1	20
Locomotive,	5	1,585
Running machinery (friction),	3	27,100
Rubbish and brush burning,	5	780
Stationary engines, tractors, etc.,	3	7,875
Spontaneous combustion,	4	30,897
Undetermined,	87	279,631
Woodwork and furniture exposed to contact with stove, heating appliances and unprotected lights,	1	35
Totals,	709	$837,906

INSPECTIONS.

ORDERS ISSUED FOR THE REMOVAL OR REMEDY OF FIRE HAZARDS DURING NOVEMBER, 1918.

(Exclusive of Philadelphia and Pittsburgh)

Buildings Inspected.	Number of inspections.	Removal of or general repairs to dilapidated buildings.	Removal of rubbish and waste accumulation and regulating proper disposal thereof.	Regulating proper storage of explosives (petroleum products, chemicals, powder).	Repair roof.	Repair defective wiring.	Change or repair heating arrangement.	Install fire extinguishers, sand or water buckets.	Place metal or asbestos protection around heat appliances or installation of other fire retardents.	Total.	Orders unnecessary.
Almshouses, asylums, orphanages,	1	1	1							2	
Apartment houses, boarding houses, and dwellings,	5	3	2							5	1
Bank and office buildings,	4										4
Barns and stables (city and town),	3	3								3	
Billiard (pool) halls and bowling alleys,	7										7
Chapels and churches,	1										1
Garages—public,	2										2
Hospitals and sanitariums,	53			1	1	1	16	1	20	36	
Hotels,	4										4
Jails, prisons, reform schools,	1							1	1		
Manufactory and Industrial:											
Bakeries,	4										4
Bottling works,	1										1
Carriage and wagons,	1										1
Cigars and cigarettes,	3										3
Cleaning and dyeing,	3										3
Cobblers,	5										5
Confectionery,	1										1
Creameries,	1										1
Feed and flour,	8						1		1	7	
Hardware and cutlery,	1										1
Hosiery and knitting,	1										1
Ice cream,	1										1
Laundries,	2										2
Mattress and upholstery,	1										1
Miscellaneous,	2										2
Musical instruments,	1										1
Planing mills,	1										1
Plumbing and tinning,	4										4
Printing estblishments,	5										5
Silk and lace,	1										1
Woolen mills,	1										1
Mercantile Establishments:											
Automobiles and accessories,	2										2
Barber shops,	4										4
Boots and shoes,	13										13
Confectionery and ice cream,	7										7
Department stores,	15										15
Drugs and medicines,	11										11
Electrical and gas fixtures and supplies,	1										1
Florists,	2										2

ORDERS ISSUED FOR THE REMOVAL OR REMEDY OF FIRE HAZARDS DURING NOVEMBER, 1918—Continued.

Buildings Inspected.	Number of inspections.	Removal of or general repairs to dilapidated buildings.	Removal of rubbish and waste accumulation and regulating proper disposal thereof.	Regulating proper storage of explosives (petroleum produets, chemieals, powder).	Repair roof.	Repair defective wiring.	Change or repair heating arrangement.	Install fire extinguishers, sand or water buckets.	Place metal or asbestos protection around heat appliances or installation of other fire retardents.	Total.	Orders unnecessary.
Mercantile Establishments—continued:											
Flour, feed and hay,	1										1
Groceries,	44	1	1	1						3	41
Hardware,	9										9
House furnishings,	18										18
Jewelry,	7										7
Ladies furnishings,	4										4
Leather goods and harness,	2										2
Liquors and wines,	5										5
Meats,	2										2
Men's furnishings,	14		1							1	13
Millinery,	6										6
Miscellaneous with dwelling occupancy,	5										5
Musical instruments,	3										3
Notions and novelties,	6										6
Restaurants,	8										8
Stationery and wall paper,	2										2
Tailoring,	10										10
Tobacco and cigars,	5										5
Undertaking,	1										1
Miscellaneous (mercantile),	2		1							1	1
Motorcycles,	1										1
Outbuildings (city and town),	3	3								3	
Schools—public,	3										3
Tanks (inflammable oils and liquids),	1										1
Telegraph and telephone exchanges,	1										1
Warehouse and Storage:											
General storage,	2										2
Totals,	353	11	6	1	1	1	1	18	2	41	317

MR. BUSINESS MAN.

Fire Prevention, Fire Insurance and Business are closely related to each other, but usually thought is expended on the latter, disregarding Prevention entirely. You could not conduct your business without fire insurance. If you attempted to do so you would find your line of credit cut off, as fire insurance is essential to the conduct of business, and the basis of commercial credit and security back of all bonds and mortgages.

Fire insurance is simply the indemnifying of one person for loss through fire funds contributed by others; or, in other words, a large number of persons contribute small sums (premiums) in order that such of them that would otherwise lose a larger amount through fire will receive in whole or part the amount of their loss. Many Business Men are under-insured, not carrying sufficient insurance to properly protect the property at risk, and excuse themselves for this neglect owing to high premiums; others believing that because they never sustained a loss by fire they never will. No man can fortell a loss by fire. It comes when least expected and when least prepared for such a loss. Do not be in the unprepared class. Let fire prevention be before you in the conduct of your business, no matter how large or small it may be, for your activity in the prevention of fire means a reduction in insurance rates and consequently allowing you to carry more insurance, and at lower rates, as the rates are based on condition of property and surroundings. Fire prevention includes and covers every point on which rates are figured. You are responsible for the rates, and having the power to make them higher or lower, as soon as you realize this fact, the sooner you will take more interest in fire prevention and endeavor to improve conditions. This not only applies to your own property, but to the community at large. Premium rates are figured on the construction of buildings, occupancy, lighting, area, police system, fire department, night watchmen, pavements and width and condition of streets. You can aid in reducing the rates by assisting in improving your town or city and the condition of your own property. Do you know that if you keep gasoline in a building you are charged for it as you are for any other explosive, or for anything that may be a fire hazard? So that if you remove fire hazards and introduce fire prevention and protection in order to eliminate the danger of destruction by fire, you are doing your part to reduce fire insurance rates.

Gasoline is one of the most common fire hazards found among the general stores, hardware stores and industrial establishments. Nothing is thought of storing fifty or a hundred gallons of gasoline in a metal tank in the basement or outside of a building. It is a common thing nowadays, and we come in contact with it continually. In doing this you are not only taking chances for the destruction of property, but also for loss of life. Gasoline throws off an explosive vapor constantly even at low temperature. The explosive force in one gallon of gasoline properly mixed with air and compressed is equal to $83\frac{2}{3}$ pounds of dynamite. This means that if you have 100 gallons of gasoline on hand you are storing the equivalent in explosive force to 8,366 pounds of dynamite. Dynamite will only explode from two or three causes which may be easily guarded against, and which must occur in its immediate vicinity.

The vapor from gasoline is heavier than air. It settles to the floor and runs along the same much as a stream of water would, only that it is an invisible stream. The vapor will settle and remain in a depression in or under the floor for days and even weeks unless disturbed by a circulation of air. A spark will cause the accumulated vapor to explode. This spark does not necessarily have to come from a lighted fire, but may occur from a person striking a nail in their shoe on a nail in the floor, or other similar unavoidable causes. Under a certain atmospheric condition spontaneous combustion will also occur in this accumulated vapor. The silent and invisible creeping of this vapor from place to place awaiting favorable conditions to strike the blow that means loss of life and property is a terrific thing to think of. It is past understanding, in view of these facts, that merchants with their entire capital invested in business will give so little thought to safeguarding their interests. Knowing a building to be heated by stoves or furnaces in the basement, they will at night lock up this explosive in a warehouse or building adjacent to or connected with the store or factory. After locking up fire and this explosive vapor together, they will in effect wager their entire investment against the merely nominal expense or fire proof, evaporation proof, vented storage tanks, which would prevent this vapor and fire getting together.

Kerosene and oils of other kinds are not as dangerous as gasoline, but are nevertheless dangerous and should be stored with just as much care and handled in the same way. Especially is this danger true of linseed oil, paint oils and turpentine.

The careless disposition of rubbish and oily rags is another common occurance which is keeping the fire waste up and consequently your insurance rates. The alleys, byways and basements of buildings in some of the leading cities of this State have been found to be in a condition that is beyond description—alleys filled with boxes, rubbish, waste, trash and refuse, and basements in like condition, where a spark from a lighted pipe, cigar, cigarette, or chimney could start a blaze, and if such a thing occurred at the right time or night with a strong wind, a conflagration might occur which would wipe out an entire city. Such conflagrations have occurred from this very source. Especially are the above conditions true in winter. People are in the habit of letting things pile up in winter and doing housecleaning in the spring. We have our biggest fires in winter, and at this time of the year it is the hardest to fight them. EVERY DAY SHOULD BE A CLEAN-UP DAY! If rubbish is burned every night or morning either in the furnace, or in metal covered with mesh wire over the top, the danger from fire from the carelessly lighted rubbish pile would be eliminated. If it is not destroyed every day the pile grows and the danger of fire increases in like proportion. Oily rags will produce spontaneous combustion and should always be kept in closed metallic receptacles. Many instances can be cited where great destruction of property has been wrought by fire starting through spontaneous combustion of oily rags left lying around in some obscure corner.

Thousands of business men fail to safeguard their property which strict economy and industry have created, nor do they give a thought the the protection of the lives of their employes. Many probably carry insurance and in case of fire expect to be re-financed from that source. But no insurance can restore lost trade, which becomes scattered as the inevitable result of fire loss. Nor can insurance bring to life the victims of the terrible scourge.

A CONSTANT MENACE.

Insurance statistics prove that a large percentage of fires originate on the roof. Fire means waste, and waste means loss. It matters not if the building is insured, the loss is just as great as is the amount

collected from the public in the form of insurance rates. The rate of insurance is determined by the amount of the loss, and the more fires, the higher the rate.

Manufacturers and dealers pay for insurance, and the cost is added to the price of good which the consumer pays, and the higher the insurance rates the more you have to pay for all the articles you purchase, including food. Therefore, a reduction of the fire loss means that every individual would directly benefit by a reduction in the cost of living.

One of the greatest problems which confronts the public today is that of the annual fire loss, and the fact stands out clearly above all others, that the inflammable roof constitutes the greatest single fire hazard, which has assumed gigantic proportion and is being added to daily, as reports come in from all sections of the country showing, "Entire Towns Destroyed by Fire, Flying Brand Set Fire to Thirty Houses," "Conflagration Wipes Out Residential Section." Truly the shingle roof route to destruction is being widely advertised.

A careful analysis of conflagrations shows four elements to be present; a spell of hot weather; high winds; a preliminary quick fire and inflammable roofs. If one of these elements is removed the conflagration cannot take place. The elements of weather cannot be controlled. The quick, hot fire can be controlled by general unburnable construction which will not become a reality until the many fire traps, which cover the country, rot, or are burnt, but the roofing element can be changed and should be so that it will no longer combine in general reaction and make conflagrations impossible.

The inability of any section, where shingle roofs are prevalent, to resist the onslaught of a conflagration is pitiable. The fire blazes hotly and the burning embers are caused by the wind to start fires in different sections. The fire departments are rendered helpless, owing to having two or three fires to cope with at one time, and when from ten to twenty fires start at once there is no help.

Every year the volume of loss from improper and hazardous roofing conditions is increasing from ten to forty per cent.

Shingle roofs are an invitation to fire. With their curved and jagged edges, pointing upwards, they offer lodgment to flying embers. In the case at Salem, Massachusetts, which cost that city several million dollars, the responsibility of shingle roofs for the loss was recognized and the city council passed an ordinance prohibiting the

use of such roofs in the future. Many other instances could be mentioned where the same conditions have resulted from just such cause. The time has arrived to put the limited supply of timber to a much better use than sawing it into kindling wood size and arranging it in convenient form for burning on top of your homes. Will you continue to literally burn up your money, and complain about the high price of living, or will you help to banish forever the wood shingle and assist in obtaining in your community by law, or other means, regulations requiring that all roofs must be made of non-inflammable materials? Common sense should teach you that this is a move in the right direction, and you will profit by the reduction in the loss caused by the best invitation to fire in use today.

"HOW TO DO IT."

M—ake it a duty to inspect your premises regularly. Remore and destroy useless material that might cause fire.

A—sk your neighbor to help you reduce insurance rates by improving conditions, , and the prevention of fire.

K—eep constantly in view the possibility of fire and use precaution to avoid one.

E—arnestly labor for improved building regulations and the use of fire resistive material in the erection of new buildings.

P—ut no trust in the fact that you never suffered a loss by fire, as a reason for being unprepared.

E—xpend a few dollars for extinguishers and place them handy for instant use.

N—ever discourage a neighbor who is wise enough to protect his property, go and do likewise.

N—ow is the opportune time to encourage carefulness in the handling of inflammable liquids—they are not fool proof.

S—top fire losses—they add to the high cost of living.

Y—ou are responsible for damage to a neighbor's property, if by your carelessness it is destroyed by fire.

L—ook after defective chimneys, flues, heaters, stoves and stovepipes; have defects remedied, they are the cause of many disastrous fires.

V—ery many persons do not recognize the danger of carelessly handling gasoline. It is dangerous and should be used with caution to avoid accident or possibly death.

A—lways provide metal receptacles for oil rage and waste. Spontaneous combustion may result by failure to do so.

N—ever permit children to play with matches—many a little tot has lost its life through neglect of parents to caution against this dangerous practice.

I —nsist on the inspection of every property in your community and the remedying of conditions in the interest of Fire Prevention; let this be done by either local or State officials and see to it that it is thoroughly done.

A—ssist in this work by calling together the neighbors and forming a Fire Prevention Association.

F —ires come when least expected.

I —s not the saving of your home worth an effort to get busy and protect it by cleaning up and keeping it clean, free from rubbish and trash.

R—emember to have fire prevention in your home is better than to mourn over the remains of beloved ones, or the sympathy of your neighbors over your loss.

E —xtinguish matches before throwing them away. Use none but safety matches.

P —eople are great when they unite in a common cause—nothing is more beneficial or profitable than the prevention of fire losses.

R—ubbish heaps are fire breeders. Fires start in them and are fed by them. A clean city will have few fires.

O—il stoves and lamps should be trimmed only in daylight and out of doors if possible.

O—wners of property should use all reasonable effort to preserve their property in the event of fire—better, however, to expend effort in the prevention of fire.

F —requent clean-ups prevent fires, add to the beauty of the home and surroundings, enchance the value of property, create comfort and happiness and will.

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MONTHLY BULLETIN

"MAKE PENNSYLVANIA FIREPROOF"

Department

OF THE

State Fire Marshal

OF

Pennsylvania

OFFICE—ROOM 166
Capitol Building, Harrisburg, Pa.
HOWARD E. BUTZ, State Fire Marshal

VOL. VI MARCH, 1919 No. 35

A TOAST TO FIRE PREVENTION.

Here's to the boy who in his play
Stops to throw some rubbish away,
Thoughtful ever to conditions about,
He probably prevented a fire no doubt.

Here's to the girl who thought one day
To learn where the fire alarm boxes lay.
For the knowledge gained in that moment of light
Saved her father's home from fire one night.

Here's to the teacher who taught her classes
All the different ways and passes
Down the long fire-escape to the ground,
Keeping each little tot safe and sound.

Here's to the people of our Nation,
Who thoroughly believe in conservation,
And stop to think in this life of haste,
To help prevent King Fire's great waste.

Vol. VI. No. 36

Monthly Bulletin

Department

OF THE

State Fire Marshal

OF

Pennsylvania

HOWARD E. BUTZ, State Fire Marshal

BULLETIN OF INFORMATION FOR THE PUBLIC

MARCH, 1919

HARRISBURG, PENNA.:
1919

WOMAN'S SPHERE

Women have been developing a sense of civic responsibility since the organizing of the first woman's club, over fifty years ago. War work of various kinds, which has occupied their time and attention for the past few years, has placed every other interest more or less in the background, but now that these demands are gradually being lessened, let them turn their attention to other vitally important problems, nearer home. No person would wish to ignore or underestimate the unselfish service, the glorious achievements and the vast strides towards their emancipation, women have made during the golden opportunity afforded by the World War, and the world cannot have help but gain a truer, broader vision of what constitutes the "woman's sphere." We realize, if she can have been of such invaluable assistance during the recent crucial period, her co-operation is needed in dealing with the many problems arising in the various communities throughout the State, and chief and foremost of these problems is the fire menace and fire prevention;—how to help Pennsylvania save the $18,000,000 and the many lives lost annually.

The beginning of many a conflagration, attended afterwards with terrible loss of life and property, is often trivial, and the results would never have occurred had it not been for the lack of proper education in fire control. Taken in time and dealt with coolly it would never have developed into a serious outbreak, and equally the magnitude of the blaze, as regards actual fire damage, can never be accurately gauged by the death roll, for experience has shown that in most of the disasters as many die from suffocation consequent upon crushing, or from injuries received in seeking safety through some desperate and ill-judged action, such as jumping into the streets from an upper story window, as those who perish in the flames. This, of course is natural. A curl of smoke, a few sparks and a cry of "Fire," and unless prepared beforehand for this kind of emergency, the first impulse of any one is to reach safety, or what appears to be safety, as quickly as possible. No thought is given to the best mode of exit; misguided instinct suggests the way by which one has entered, and instantly corridors, stairways and passages become jammed with a fearstricken, panicky crowd,—beyond control and following each other like to sheep to their deaths.

It is these incontrovertible facts, among others, that makes it especially necessary, in this period of reconstruction, that the women of America fully realize their true sphere and importance in dealing with the problems of fire prevention, fire protection and fire control.

Safety from fire is as necessary as safety from any other danger. Fire prevention is a dominant note in all progressive communities today and among all progressive civic workers. In the education of the public in this matter, and even in the practical constructive work in fire prevention, it is now, more than ever before, the duty of women to extend their hands to help and bend their minds upon this problem, and the most effective means of their doing so is certainly through their civic clubs. A progressive civic club should inquire intelligently into the matter of the modern fire-drills, regulations and alarms, and should take active measures to see that the various department stores, factories, schools and hospitals have taken the proper steps and precautions to insure themselves against fire disasters.

The education of the public is another fertile field in fire prevention that must be cultivated by the civic club. A forceful blow at the fire menace can be struck through the school children. The United States Commissioner of Education says, "If each of the school children of the United States would learn how to prevent fire, and form habits of carefulness and consideration, it would go far in saving lives and property. Each such child would be to this extent a good citizen, for one of the first requirements of citizenship is to care for your own property and to acknowledge and respect the rights and property of others." The principle of self-preservation, which is instinctive in every person, will be an important factor in influencing these children to co-operate in the matter of fire prevention, if an effort is made to give them a fair understanding of the subject. Besides educating the children it is, of course, very essential that the parents themselves be properly educated in the matters of fire prevention and fire control and this can be largely accomplished by means of social centers under the supervision of the civic club. Too much emphasis cannot be laid upon the necessity of preventing excited parents and others from rushing to a building which may be on fire, and immediately crowding the entrances by which the children are leaving, causing confusion and retarding the exit of those still within.

It is hard to realize when reading newspaper reports of some great conflagration quite what it all means; it seems so remote from the

happenings of the daily routine, that it is perused with passing interest and forgotten. Then comes the day, when suddenly the menace appears in all its lurid horror, and we behold the occasion when an ounce of knowledge regarding fire and its usual course of progress may be the means of preventing the advance of the enemy and of saving human life. A civic club which has done its full duty towards its community in the matters of fire prevention and fire control, has furnished the needed "ounce of knowledge" and thus has prevented the advance of the enemy. Such a civic club is not only a credit to the community and to the State, but is worth more than all the insurance that could be written.

The individual woman has always been the natural housekeeper; today the "collective woman" should be, as naturally, the municipal housekeeper and surely nothing can concern her more than the protection, through her civic clubs, of her "collective house" against destruction by fire.

M. R. M.

COMBINE FOR PROTECTION

Co-operation is the combination of a number of persons to accomplish what could not be done individually. Persons combine their means or power for various purposes and in this manner bear each others burdens. This is so when the home or other property is destroyed by fire and the insurance companies are called upon to make reimbursement for the loss. In many instances only partial payment is made, which covers but a small portion of the loss sustained, and should full value be paid, you are still a loser, for no money can replace many precious articles destroyed and dear to you from association.

The standard of insurance is advancing and consequently premium rates are climbing, caused principally by the increasing loss from neglect are carelessness, faulty buildings and many equally preventable causes, and the only way of bringing about a reduction in the ever increasing rates is by the co-operation of individuals to obtain better and safer building construction, and removal of all hazards in the interest of preventing fires. By the enactment of a law to

that effect, it should be the duty of every agent of an insurance company to assist in the prevention of fires by making a thorough inspection of every risk they write or renew. Such inspection should include besides general construction of property, the condition of chimney and flues, stoves, stovepipes, roof, lighting system, lightning rods on barns and other buildings, storage and use of gasoline in or about garages, or whenever automobiles or other gas burning engines are used.

A report should be made of conditions and contents of every property examined, a special note made of all dangerous conditions, and a notice served on owner or tenant, that defects or changes must be made within a fixed time, before a policy could be issued. Reasonable men appreciate their attention being called to defects in buildings, or that danger arises from the storage of hazardous material, which endangers their property, and in most instances willingly comply with requests for remedying conditions, and if upon compliance depends their obtaining insurance, which is essential, particularly in business, there is no doubt that it would result in early compliance, but also act in a great measure in more attention being given to prevention of fire from many sources now charged with its cause.

By the adoption of this method of issuing insurance, better conditions will be effected, beneficial both to the individual and to a community. Co-operation in this will result in a reduction in losses by fire and a lowering of insurance rates which means dollars in the pockets of the insurer.

THE CRIMES OF ARSON AND BURNING TO DEFRAUD

Webster defines an incendiary as one who sets fire to a building or property of another. There is a class of fires—and this class is by no means small—which are set by persons who are mentally unbalanced and known as pyromaniacs. Such persons are not morally responsible and motive cannot be imputed to their acts. They belong in hospitals or asylums. The motive for incendiarism is either first, hatred or ill-will; second, a desire to conceal crime or, third, to defraud an insurer.

The law-makers of our country regard crimes as subject to certain classification. Thus, murder and treason are looked upon with horror and the punishment meted out for these crimes is the greatest known to human law.

The framers of the laws of our country recognized another crime: viz. arson, as on a parity with that of murder and treason because in most of the States an indictment for either of these crimes may be returned any time after the committing of the crime.

Under the old common law, arson was in reality a crime against the habitation rather than against the individual or, in other words, the burning of the home of another person.

The statutes of various States define the crime of arson and fixes the penalty therefor, and also defines the crime of *burning to defraud* insurers and also provides the penalty for this crime.

There is a general idea that arson and burning to defraud are difficult crimes to prosecute successfully. This is not borne out by facts. The reason many prosecutors are unsuccessful in the prosecutions of arson is because of the fact that insufficient evidence is developed by the investigation.

There are three things that must be proved in order to develop a case of arson and to justify a hope of conviction.

First: *The Fire.* It is necessary to prove that the corpus deliciti or, in other words, to prove that an actual fire occurred at a certain place on or about the time specified in the indictment.

Second: *Origin Incendiary.* Direct and positive evidence of some kind must be introduced to show that the fire was incendiary. Every fire is presumed to be of accidental origin and it is necessary for the State to introduce positive evidence to overcome this presumption. Sometimes the incendiary origin can be proved by direct evidence such as saturation of the premises with kerosene, or some other explosive compound. It can be established by the fact that there are two or three fires, one having no connection with another. It can be established by the confession of someone implicated in the crime and it can sometimes be established by the evidence of members of the Fire Department. For example, most Judges will let an experienced Fire Chief qualify as an expert on the matter of the origin of fires and to answer the direct question as to whether or not a particular fire under investigation was of accidental

or incendiary origin. It can be strengthened ofttimes by the introduction of evidence that additional insurance was taken out just previous to the fire; or that valuable goods or keep-sakes were removed previous to the fire. Any evidence tending to show that a fire was looked for or was expected; as for example, a man may make investigation or inquiry so as to determine whether or not his insurance policy is valid, is admissible and strengthens the contention of the state that the fire was not accidental but was premeditated.

Third: *Motive.* It is necessary to establish a positive motive. The motive in arson may be revenge, the desire to destroy evidence of some other crime or it may be a desire to defraud an Insurance Company. Thus, a tenant may burn the landlord's dwelling order to collect the insurance on his own household goods. The tenant in this case would be guilty of both arson and burning to defraud. Over-insurance is not always responsible for burning to defraud. In many cases a man is willing to dispose of his property at a quick sale for what it is worth or even less than that amount carried in insurance. He may desire to change his location, to move to some other city or he may desire to burn only a small portion of his goods. In every successful prosecution for arson or burning to defraud, the motive must be clearly and sufficiently brought out.

It is necessary to show either by facts or circumstances that the man under indictment could and did set the fire. After the incendiary origin of the fire has been satisfactorily proved, most Judges are willing to admit evidence of all kinds for the purpose of developing the motive and the identity of the incendiary. The fact that the suspected party bought kerosene or explosives similar to that found in the fire just previous to its occurrence, is strong evidence. The fact that the building was locked and the suspected party carried the only keys is admissible. Conversation relative to a fire previous to the time the fire occurred is also admissible.

UNWORTHY OF LENIENCY

At times there may arise in a criminal prosecution certain circumstances justifying the extending of leniency to the defendant, but there can scarcely be any conceivable condition warranting the

slightest leniency being accorded to the criminal who wilfully, deliberately and with malice commits arson, which, with the possible exception of murder and treason is the most atrocious of crimes and should rightfully be so regarded and by the law punished by death.

The arsonist is a most despicable and cowardly being, guilty of perpetrating an exceptionally heinous crime, disregarding every law, jeopardizing human life and property, and, in, most insances, for the personal gain of a few paltry dollars, or to revenge an imaginary injury. The laws of this State are extremely inadequate to fit the crime of arson, and in but three States of the Union does the law specify that in case of the destruction of human life, the act of arson becomes murder and on conviction the offender shall suffer death or life imprisonment. This should be the universal law and be adopted by every State, and all authorities charged with enforcing the laws should work in unison for the extermination of the arsonist, the most dastardly of criminals. Among various State officials concerted action should prevail and every assistance given to those charged with the investigating of incendiary fires to aid in the successful apprehension, prosecution and conviction of the criminal, and when conviction is obtained and sentence pronounced, there should be an absolute assurance that the culprit receive and serve the penalty for his nefarious act, and not as is too often the case, after serving a short period of imprisonment be parolled or pardoned, thus in a degree annulling the intended corrective effect of punishment.

It is of record that many parolled fire bugs have rejoined their former gangs and proceeded to at once apply their vocation, causing great loss of property, possibly loss of life, and adding to the heavy burden already borne by the taxpayer who is the real loser by reason of the increased taxes that must be added to make up the deficiency from loss of property destroyed.

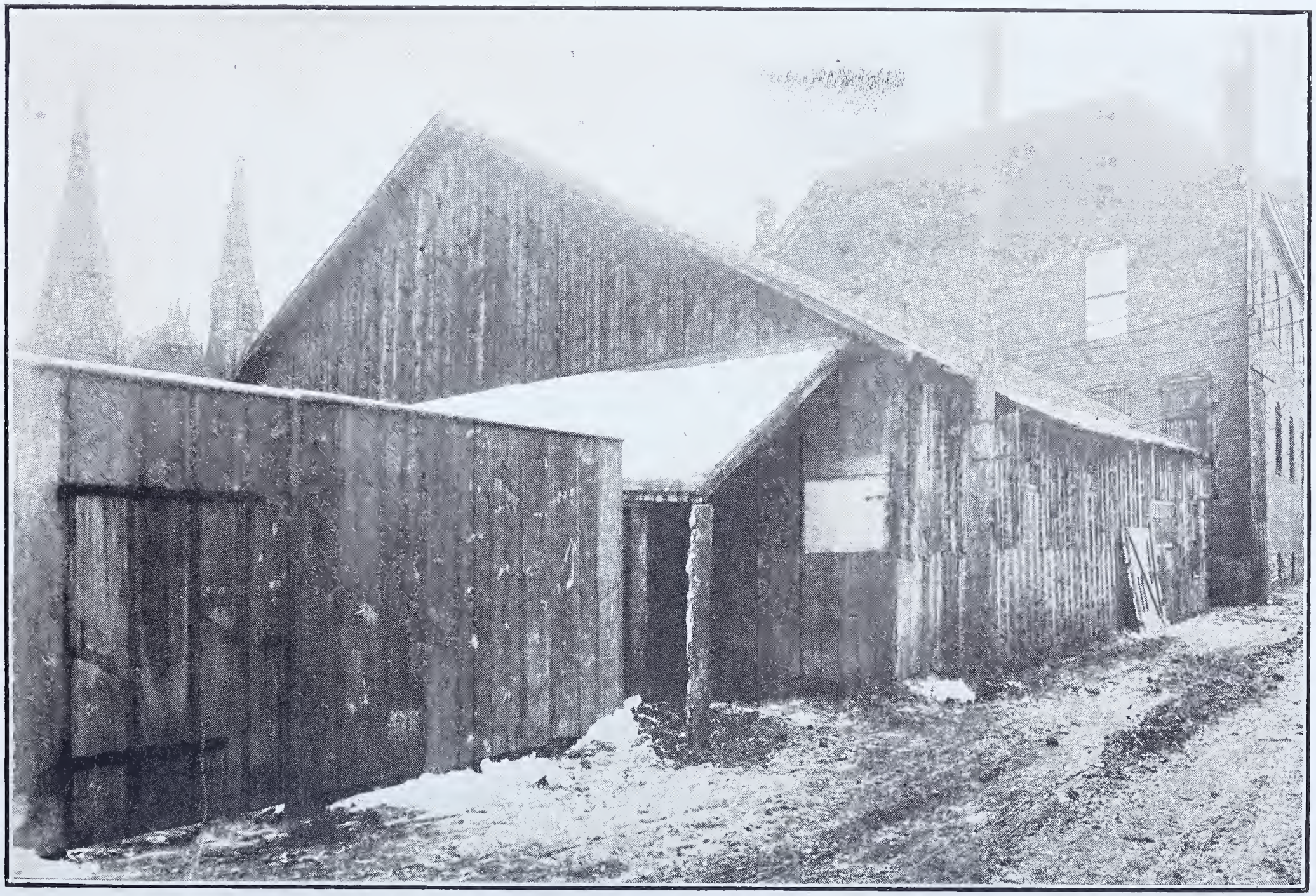
It has become a recognized fact that where in one community, particularly in the larger cities where many incendiary fires occur, that they are not usually the work of an individual, but of an organization formed especially for the particular purpose of committing arson, and generally has as its head one who is fully capable of systemizing and applying business methods, even going so far as to supply counsel in case of the prosecution of any of its members.

Probably the crime of arson will never be entirely eradicated as long as policies of insurance are so easily obtained, but will be if by law Insurance Companies are compelled to make careful inspections of all risks and the agent required to certify not only as to the value of building and contents, but also as to the character and standing of applicant.

All agents, company and public adjusters should be licensed and with swift and adequate punishment for the incendiary are important methods by which this most contemptible crime may be controlled. Public sentiment must support this movement and work for the adoption of drastic means for the elimination of the fire bug.

Policy holders should by this time realize that incendiarism unchecked means increased premiums and when they do so realize, then will come the crusade that will be so effective that arson will become an unusual crime as its promoters will know that conviction will end their freedom for at least a score of years.

Such fire hazards to be found in all parts of the State. Correct conditions. Avoid fire and loss of adjacent property which may be of great value.



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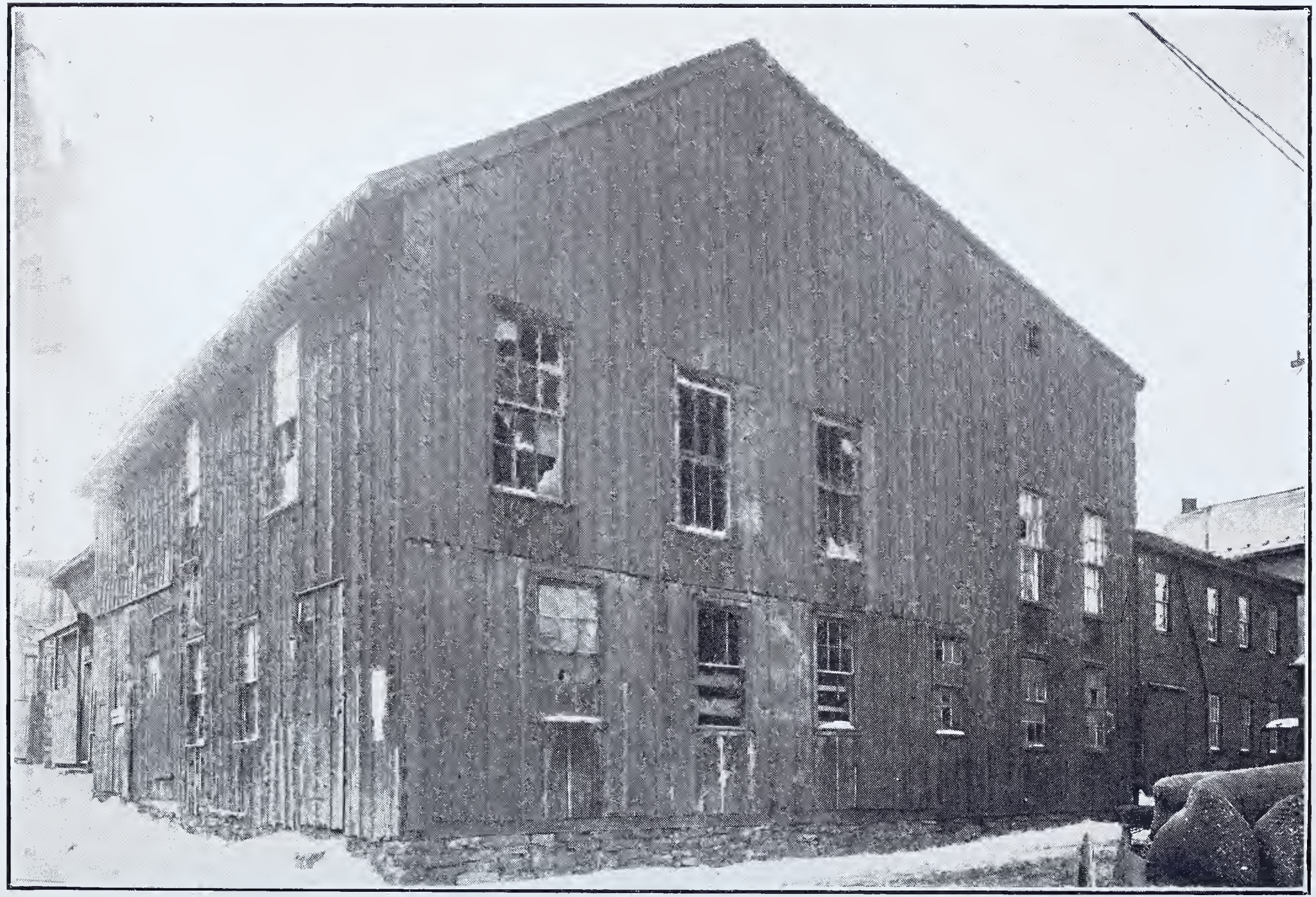

Such fire hazards to be found in all parts of the State. Correct conditions. Avoid fire and loss of adjacent property which may be of great value.

NUMBER OF FIRES REPORTED SHOWING VALUE OF PROPERTY LOSS AND OF INSURANCE, OCTOBER, 1918.

(Exclusive of Philadelphia and Pittsburgh.)

Counties.	Number of Fires.	Estimated Value.	Estimated Loss.	Amount of Insurance.
Adams,	5	$24,250	$5,535	$11,350
Allegheny,	18	138,180	61,666	563,000
Armstrong,	1	8,690	8,640	3,000
Beaver,	4	17,300	1,235	6,000
Bedford,	4	2,531	1,843	2,025
Berks,	21	206,441	25,803	65,060
Blair,	11	364,685	182,951	132,895
Bradford,	18	61,998	39,258	18,100
Bucks,	4	8,321	3,552	6,075
Butler,	1	500	350	350
Cambria,	9	21,850	7,587	10,300
Carbon,	1	40,000	3,200	4,980
Centre,	4	19,000	5,258	11,000
Chester,	7	24,250	4,643	20,100
Clarion,	1	1,200	9	700
Clearfield,	4	19,450	18,220	7,300
Crawford,	3	5,632	5,592	1,105
Cumberland,	2	440	140	515
Dauphin,	4	14,250	6,240	6,300
Delaware,	8	90,925	31,595	36,500
Elk,	2	4,000	68	3,000
Erie,	32	352,050	44,837	108,150
Fayette,	5	36,075	3,925	21,500
Huntingdon,	4	14,500	4,875	4,000
Indiana,	3	4,450	3,260	1,640
Jefferson,	2	3,608	1,046	2,100
Lackawanna,	15	190,250	1,943	139,000
Lancaster,	5	7,900	1,674	5,900
Lawrence,	2	64,800	3,845	43,000
Lebanon,	6	22,781	10,831	4,950
Lehigh,	4	8,900	3,369	7,500
Luzerne,	13	76,686	5,565	22,600
Lycoming,	5	236,914	1,489	104,000
McKean,	3	28,300	16,711	22,900
Mercer,	6	17,120	3,726	7,400
Monroe,	3	5,300	873	5,300
Montgomery,	18	180,700	89,436	106,560
Montour,	2	900	500	----------
Northampton,	8	36,700	1,678	25,950
Perry,	4	155,479	7,068	2,950
Pike,	1	1,300	1,300	600
Potter,	2	4,031	1,579	2,850
Schuylkill,	9	28,730	3,435	12,200
Somerset,	3	17,800	3,512	3,000
Susquehanna,	1	750	491	500
Tioga,	4	29,350	28,650	19,375
Venango,	4	13,500	190	7,600
Warren,	3	197,009	3,575	136,800
Washington,	6	26,850	10,655	11,525
Wayne,	5	7,000	2,044	3,850
Westmoreland,	8	98,900	681	56,100
York,	13	36,925	4,656	27,525
	331	$2,979,451	$681,781	$1,321,480

CLASS OF STRUCTURES DESTROYED OR DAMAGED BY FIRE, OCTOBER, 1918.

(Exclusive of Philadelphia and Pittsburgh.)

Structures.	Number of Fires.	Loss.
Apartment houses, boarding houses, dwellings,	126	$73,012
Automobiles,	9	2,520
Barns and stables (city and town),	8	23,940
Buildings in course of construction,	1	2,000
Chapels and churches,	2	6,045
Club, lodge, and society rooms,	1	100
ELECTRIC RAILWAY PROPERTY:		
Car barns,	1	5
FARM PROPERTY:		
Barns and stables,	50	125,082
Dwellings,	43	36,986
Outbuildings,	4	1,040
Garages, private,	2	55
Garages, public,	5	4,890
Hotels,	9	36,340
Livery and sale stables,	3	1,178
MANUFACTURING AND INDUSTRIAL ESTABLISHMENTS:		
Acids and chemicals,	2	220
Bottling works,	1	55
Brick and clay works,	1	13,500
Clothing (men's), linens, hats, caps, gloves,	1	20
Coal mining property,	1	50
Creameries,	1	25
Electric light and power plants,	1	347
Feed and flour,	1	29,000
Hosiery and knitting,	1	157
Iron and steel, blast furnaces, foundries, rolling mills,	4	2,025
Mattress and upholstery,	1	5
Metal, miscellaneous,	1	1,100
Miscellaneous,	5	35,235
Planing mills,	1	45,000
Rubber goods,	1	6,200
Saw mills,	1	325
Shipyards, drydocks, and wharves,	1	3
Tanneries,	1	5,353
Woolen mills,	1	500
MERCANTILE ESTABLISHMENTS:		
Boots and shoes,	1	1,875
Flour, feed and hay,	1	19
Groceries,	2	2,882
Miscellaneous, with dwelling occupancy,	14	17,287
Undertaking,	1	1,700
Miscellaneous,	7	2,970
Miscellaneous,	1	5
Outbuildings (city or town),	4	3,910
RAILROAD (STEAM) PROPERTY:		
Freight rolling equipment,	1	2,500
Shops,	1	5
Miscellaneous,	1	3,000
Schools, public,	2	2,610
WAREHOUSES AND STORAGE:		
General storage,	4	190,705
Total,	331	$681,781

MATERIALS USED IN CONSTRUCTION OF BUILDINGS DESTROYED OR DAMAGED BY FIRE, OCTOBER, 1918.

(Exclusive of Philadelphia and Pittsburgh.)

Materials.	Number of Fires.	Loss.
Brick,	54	$15,720
Brick and stone,	2	253
Concrete,	1	40
Fireproof,	1	347
Stone,	5	25,960
Stucco,	1	600
Wood or frame,	235	352,306
Wood, with brick or stone,	16	250,688
Unclassified,	12	8,195
Iron covered (galvanized),	2	27,337
Not reported,	2	335
Totals,	331	$681,781

CAUSE OF FIRE AND LOSS INCURRED, OCTOBER, 1918.

(Exclusive of Philadelphia and Pittsburgh.)

Causes.	Number of Fires.	Loss.
Adjoining fires,	16	$90,102
Ashes (hot), careless disposal,	3	58
Backfire,	3	1,406
Candle carelessness,	2	875
Chimney flues, stacks, defective and overheated,	33	15,467
Cigars and ciragettes (lighted), carelessly discarded,	7	5,722
Clothing and curtains exposed to contact with stove, heating appliances, and unprotected lights,	9	1,739
Coals (hot), falling from stove or furnace,	3	4,794
Electric, flat and gas iron carelessness,	2	78
Electric wiring, defective,	9	20,612
EXPLOSIONS:		
Alcohol, gas and oil stoves and heaters,	9	11,873
Boiler,	2	280
Chemicals and acids,	4	2,600
Coal oil and kerosene, starting fires and filling lamps and lanterns,	1	6,254
Gas leak,	2	1,609
Gasoline, benzine, naphtha, careless use and cleaning with exposed to fire or unprotected lights,	5	929
Gasoline, pipe or storage leak,	3	3,585
Oils (inflammable), ignition,	2	2,850
Fireplace, defective or overheated,	4	136
Flatirons and bricks (heated), used for warming purpose in bed,	1	50
Furnaces, heaters, stoves, and their pipes, defective or overheated,	5	2,130
Fumigation,	2	201

CAUSE OF FIRE AND LOSS INCURRED, OCTOBER, 1918—Concluded.

Causes.	Number of Fires.	Loss.
Incendiary,	13	38,265
Lamps, lanterns, overturned,	1	25
Lightning (buildings not rodded),	4	10,450
Lightning (no report as to rods),	9	11,836
Matches, careless use and keeping,	13	2,672
Matches, children,	14	11,128
Metals (hot), asphalt, tar, pitch, etc., ignition of,	3	2,238
Miscellaneous,	1	1,200
Smoking, carelessness,	1	50
Smoking in bed,	2	82
SPARKS:		
Chimneys, flues, stacks, cupola (exposure, adjoining fires),	20	8,153
Locomotives,	5	6,285
Running machinery (friction),	1	180
Rubbish and brush burning,	5	457
Stationary engines, tractors, etc.,	2	2,220
SPONTANEOUS COMBUSTION,	4	795
Torch carelessness,	1	50
Undetermined,	100	410,642
Woodwork and furniture exposed to contact with stove, heating appliances and unprotected lights,	4	1,630
Total,	331	$681,781

NUMBER OF INSPECTIONS AND ORDERS ISSUED FOR REMOVAL OR REMEDYING OF FIRE HAZARDS DURING THE MONTH OF JANUARY, 1919.

Buildings Inspected	No. of inspections.	Removal of or general repairs to dilapidated buildings.	Removal of rubbish and waste accumulations and regulating proper disposal thereof.	Regulating proper storage of explosives (petroleum products, chemicals, powder).	Repair chimney or stovepipe connections.	Repair defective wiring.	Change or repair heating arrangement.	Change or repair lighting arrangement.	Install fire extinguishers, sand or water buckets.	Close up openings in buildings.	Place metal or asbestos protection around heat appliances or installations of other fire retardents.	Miscellaneous, not classified.	Total.	Orders not necessary.
Apartment houses, boarding houses, dwellings,	3	1	2	0	0	0	0	0	0	1	0	1	5	0
Banks and office buildings,	5	0	3	0	0	0	0	3	0	0	0	0	6	0
Barns and stables (city and towns),	3	2	1	0	1	0	0	0	0	0	0	0	4	0
Billiard (pool) halls and bowling alleys,	6	0	3	0	1	3	0	3	0	0	1	0	11	1
Club, lodge and society rooms,	3	0	1	0	0	0	0	1	0	0	0	0	2	1
FARM PROPERTY:														
Barns and stables,	1	1	1	0	0	0	0	0	0	0	0	0	2	0
Dwellings,	1	1	0	0	0	0	0	0	0	0	0	0	1	0
Garages, public,	9	1	1	0	0	0	3	1	0	1	0	0	7	5
Hospitals and sanitariums,	1	0	0	0	0	0	0	0	0	0	0	1	1	0
Hotels,	2	0	1	0	0	1	0	1	0	0	0	0	3	0
Livery and sale stables,	3	2	2	0	0	0	0	1	0	1	0	0	6	0
MANUFG. AND INDUSTRIAL:														
Bakeries,	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Carpenter shops,	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Carriages and wagons,	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Cement, concrete and stone,	1	0	0	0	0	0	1	1	0	0	0	0	2	0
Cleaning and dyeing,	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Cobblers,	4	0	0	0	0	0	0	0	0	0	0	0	0	4
Feed and flour,	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Hosiery and knitting,	1	0	0	0	1	0	0	0	0	0	0	0	1	0
Laundries,	3	2	2	0	0	0	0	1	0	0	0	0	5	1
Leather goods and saddlery,	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Mattress and upholstery,	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Planing mills,	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Plumbing and tinning,	3	0	1	0	1	0	0	2	0	0	1	0	5	1
Printing establishments,	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Gas works,	1	0	1	0	0	1	0	0	1	0	0	0	3	0
MERCANTILE ESTAB'M'NTS:														
Automobiles and assessories,	3	0	0	0	1	1	0	0	0	0	0	0	2	2
Barber shops,	3	0	1	0	0	0	0	0	0	0	0	0	1	2
Boots and shoes,	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Confectionery and ice cream,	4	0	1	0	0	1	1	0	0	0	0	0	3	3
Department stores,	10	0	2	0	0	3	0	1	1	0	1	0	8	5
Drugs and medicines,	8	0	1	0	0	1	0	0	0	0	0	0	2	6
Flour, feed and hay,	5	0	0	0	0	0	0	0	0	0	0	0	0	5
Groceries,	23	0	3	2	0	0	0	2	0	0	0	0	7	19
Hardware,	8	0	2	1	0	1	0	1	0	0	1	0	6	4
House furnishings,	1	0	0	0	0	0	0	0	0	1	1	0	2	0
Jewelry,	1	0	0	0	0	0	0	0	0	0	0	0	0	1

NUMBER OF INSPECTIONS AND ORDERS ISSUED FOR REMOVAL OR REMEDYING OF FIRE HAZARDS DURING THE MONTH OF JANUARY, 1919—Concluded.

Buildings Inspected	No. of inspections.	Removal of or general repairs to dilapidated buildings.	Removal of rubbish and waste accumulations and regulating proper disposal thereof.	Regulating proper storage of explosives (petroleum products, chemicals, powder).	Repair chimney or stovepipe connections.	Repair defective wiring.	Change or repair heating arrangement.	Change or repair lighting arrangement.	Install fire extinguishers, sand or water buckets.	Close up openings in buildings,	Place metal or asbestos protection around heat appliances or installations of other fire retardents.	Miscellaneous, not classified.	Total.	Orders not necessary.
Meats,	6	0	0	0	0	0	1	0	0	0	0	0	1	5
Mens furnishings,	6	0	3	0	0	2	0	0	0	0	2	0	7	1
Millinery,	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Miscellaneous,	4	0	1	0	0	1	0	1	0	0	1	0	4	2
Miscellaneous, with dwell-occupancy,	75	4	25	4	3	11	2	13	3	0	12	0	77	32
Notions and novelties,	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Photographers,	1	0	1	0	0	1	0	0	0	0	0	0	2	0
Restaurants,	8	1	2	0	2	1	0	0	0	0	3	0	9	3
Stationery and wall paper,	2	0	1	0	0	0	0	1	0	0	0	0	2	1
Tailoring,	5	0	1	0	0	1	0	1	0	0	0	0	3	4
Tobacco and cigars,	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Wholesale groceries, produce and fruits,	4	0	1	0	0	0	0	0	0	0	1	0	2	3
Outbuildings (city and town),	3	2	1	0	0	0	0	0	0	0	0	0	3	0
Theatres and motion picture houses,	4	0	0	0	0	2	0	0	0	0	1	0	3	2
WAREHOUSES & STORAGE:														
General storage,	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Totals,	252	17	65	7	10	31	8	34	5	4	25	2	208	131

FIRE EXTINGUISHER EFFICIENCY.

Hand fire extinguishers are among the most valuable means for extinguishing fires in early stages, and that is their purpose. Unquestionably, a large number of fires could be extinguished as soon as discovered if fire extinguishers were maintained in proper condition, and their method of use were more generally understood. Large numbers of fire extinguishers are purchased and placed in positions for immediate use in case of fire, but too often, especially in busy industrial establishments, no effort is made to instruct employees in their use, and, moreover, they are permitted to remain for months and years without examination and testing to see that they are ready for instant use. Serious fires have occurred which undoubtedly could have been prevented if some attention had been given regularly and systematically to the fire extinguishers and their use.

Cases have happened where a fire has suddenly been discovered, and soda and acid extinguishers were there, but they were discarded because they wouldn't work. On the arrival of the fire chief he found they were in excellent condition, but nobody knew enough about the extinguishers to turn them upside down. Had a group of employees been instructed in their use, the fire could have been estinguished without damage. Other instances have occurred where somebody had used the fire extinguisher for some reason or other, and failed to report the fact that the fire extinguisher was empty and needed recharging. Along comes a fire, with an empty extinguisher.

Systematic inspection would prevent this catastrophe. Whenever fire extinguishers are installed in a mercantile or industrial establishment, a selected group of employees, from different parts of the building, should be thoroughly instructed in their use in case of fire, so that in the excitement and confusion which often occurs when fire is announced, someone with a cool head will proceed immediately to use the fire extinguisher. Another rule which is all important is that extinguishers should be tagged, and whenever used, a notice with the date should be written on the tag. The extinguisher should be immediately recharged after using, and a regular inspection made of all extinguishers at least once a year.—University of Arizona State Safety News.

CONSERVATION.

The lessons in conservation that have come to Pennsylvania and the people throughout the country during the period of the terrible war, should prove a most effective mainstay in the continued and redoubled conservation that is imperative for the reconstruction period following the peace negotiations on which the country and the whole world is just now entering. And that conservation which is open to the people through prevention of fire waste is not the least bit less important than that in food and general home and commercial economics

The State Fire Marshal believes that redoubled vigilance in Safety First effort as applied to prevention of fire can be made of inestimable increased value in Pennsylvania, where in the past there has been an average annual waste of around eighteen millions of dollars in property and hundreds of lives. At least three-fourths of this can be conserved by the exercise of a degree of precaution on the part of the people of the State and that, furthermore, there will be not only the saving of the property and lives thus theretofore needlessly sacrificed, but also the consequent redoubled asset that these lives and property represents, and material savings in cost of insurance that necessarily follows permanent reductions in fire losses. Since it is a basic principle of equitable insurance that the rates must rise or fall with the average scale of losses, the people establishing markedly low fire waste records are consequently and most logically entitled to correspondingly lower insurance cost to the assured.

The State Fire Marshal calls especially on the people of Pennsylvania to help in the effort for fire prevention, the fullest and most constant support possible as representing a conservation work of most far-reaching importance in its effect on the progress and prosperity of the State.

STARTING FIRES WITH KEROSENE DANGEROUS.

Statistics show that the great majority of the deaths and injuries due to the use of coal oil in attempting to start or hurry up fires in

stoves, are brought about by carelessness, and many of these happen in the early morning hours during the preparation of the morning meal. It also generally happens that when these explosions do occur in the early morning, some members of the family, and more often the children, are still in bed asleep.

Usually by the time the alarm is given, the rapid sweep of the flames has made escape impossible, and the lives of innocent victims are lost.

Possibly the most terrible, as well as one of the most unusual accidents that has ever occurred through the use of coal oil in starting fires, took place at a little town in Indiana on November 21, 1918.

Two separate explosions within the short space of thirty minutes figured in this accident. The first explosion caused by the use of coal oil in starting a fire in a heating stove, inflicted serious burns not only upon the man who was building the fire, but burned to death two small children who were asleep in the same room, as well as badly burning the mother of the children. The man and his wife, both in a critical condition, were taken to the home of a neighbor for care. The neighborwoman, wishing to hurry up her fire to make the room comfortable, poured some coal oil upon the fire. An explosion occurred, and she was completely enveloped in flames. Another neighbor succeeded in smothering the flames which were consuming her clothing, while the efforts of others were directed toward getting the victims of the first explosion out of the house. As a result of these two explosions, four were burned to death, another frightfully injured, and two or three slightly injured.

These accidents are not likely to occur if the following advice is taken:

To Prevent Fires and Protect Lives—

NEVER use kerosene to start a fire.

NEVER use gasoline and kerosene stoves except with the greatest care.

NEVER use glass bowls for kerosene lamps.

NEVER keep gasoline except in closed safety containers.

NEVER use gasoline or coal oil at night nor where the fumes of the gasoline can reach an open flame.

NEVER use gasoline except with the greatest possible care! One gallon of gasoline, under certain conditions, has the explosive power of 81 pounds of dynamite.

NEVER fail to see that coal oil and gasoline cans are properly labeled. **Don't guess.**

NEVER use insecticides or liquid polishes in the vicinity of open flame lights. Many such compounds contain volatile inflammable oils.

THE PRICE IN HUMAN LIFE

Fire insurance statistics deal with property losses—they point the moral in terms of dollars, and this has become to a large extent the public habit of thought. Then, occasionally, there bursts across the news of the day some catastrope so appalling that the nation is jarred into a consciousness of fire's terrible price in human life.

The forest fire causing the loss of five hundred lives in Minnesota was merely an instance where fire concentrated its killings; its magnitude gained for it attention and comment. But what there occurred on a large scale is daily occurring piece-meal throughout the country to an aggregate many times greater. One child is fatally burned at a bonfire; two people lost their lives in the destruction of a farm-house; six charred bodies were taken from the ruins of a factory—such items as these are so frequent and so widely distributed as to pass unnoted, but increasingly they are building up the deadly total of losses for which no insurance payments can compensate.

Almost invariably, also, there is the clearest evidence that American Carelessness is the culprit chargeable with these fatalities.

Could Carelessness be tried before the court of public opinion and could its fire victims be summoned as witnesses against it, the ghastly army would represent almost every community in the land and would number hundreds of thousands.

MONTHLY BULLETIN

"MAKE PENNSYLVANIA FIREPROOF"

Department

OF THE

State Fire Marshal

OF

Pennsylvania

OFFICE—ROOM 186
Capitol Building, Harrisburg, Pa.
HOWARD E. BUTZ, State Fire Marshal

VOL. VI APRIL, 1919 No. 37

NATION'S WEALTH DEPENDS ON CHARACTER OF CITIZENS.

The wealth of a nation is the character of its people; the character of the people depends entirely on individual homes and their members; and that the men of the home, the head of the household, is the man who is responsible and that to properly discharge the responsibility, he must keep every smallest detail of his home, and of himself under constant and painstaking care, and practice habits of carefulness. By so doing and educating every member of the family to recognize cause of danger, and how to prevent fires, would result in the saving of lives and property.

Vol. VI No. 37

Monthly Bulletin

Department

OF THE

State Fire Marshal

OF

Pennsylvania

HOWARD E. BUTZ, State Fire Marshal

BULLETIN OF INFORMATION FOR THE PUBLIC

APRIL, 1919

HARRISBURG, PENNA.:
1919

RECONSTRUCTION.

Cleanliness, Carefulness, and the Elimination of Fire Hazards are Most Important Elements in this, the Reconstruction Period.

A very necessary requisite in this, the reconstruction period, is the elimination of hazards causing fires which are adding such enormous taxes to an already over-taxed and over-burdened country. The cause for this burden can be directly attributed to elements of carelessness, indifference and neglect. This condition can be corrected and thousands of needed dollars saved by the banishment of all dirt and rubbish, which is now responsible for sixty-five per cent. of the fires that occur. There can be no argument against cleanliness, which means carefulness, and carefulness means less fires, and less fires mean more dollars to be enjoyed for other purposes than paying taxes on other people's losses. The press, fire departments, police departments, clergymen, superintendents, teachers, and pupils of schools, women's clubs, housewives, business men's organizations of all kinds, boards of trade, chamber of commerce, fire prevention associations, insurance men, labor organizations, and those engaged in any trade or calling should organize at this time for an active spring campaign for the prevention of fire by thoroughly cleaning up the individual home and entire community. An attractive, healthy, clean town draws trade and visitors. Reconstruction needs carefulness, co-operation and conservation, and there can be no better evidence of conservation than by planting and carrying out a CLEAN UP DAY, and helping to reduce the fire waste, which is an enormous burden and tax on the individual and community. This can be accomplished by co-operating with the State Fire Marshal, whose work is directed toward the saving of property which is uselessly sacrificed by neglect, carelessness and the folly of owners or tenants, and he is using every effort to accomplish this purpose by means of preventing fire. It is within the province of every person to lend assistance in forwarding the movement, and it is indisputably to your interest to do so, not only from the individual point of view, but pride and community interest invites and should without stint obtain your assist-

ance in any movement that has for its object the conservation of lives and the property of citizens of the community. By co-operation, citizens of the State at large, regardless of station, or whether they be owners of property, occupants of a house, or one or more rooms, can assist in bringing about results in the prevention of fires that will greatly repay for the exertion put forth in that direction.

Fire prevention, like fire fighting, is an evolution; not a revolution. Education will, in this important movement to which no particular attention has been heretofore given, do much to bring about a realization that the time is now here for this evolution. Take it to yourself. Would you not rather expend some of your leisure time to the safe-guarding of your property, rather than neglect to do so and sustain a loss by fire that is absolutely unnecessary? You can do this by studying your interest, getting busy and making a thorough inspection of your home or of any other building that you have an interest in, and immediately give orders to CLEAN UP and see that it is done, and that hereafter no accumulation of anything that would cause fire is permitted to remain in or about the premises.

Carelessness is one of the greatest, if not the greatest causes of fires. During the winter much useless material may have accumulated and been stored away in closets, cellars, attics, or other out of the way places, just to get it out of sight until the spring CLEAN UP. This should not be; it is a dangerous practice. There should be no packing away of useless articles or other material of inflammable nature. All such should be immediately removed and destroyed. If this is done, it will make house cleaning much easier and lessen the causes of many fires. Use care in getting rid of rubbish. If burned, do not do so on a windy day; nor should it be piled near a building. Be sure not to leave a smouldering fire. A few sparks from a rubbish fire may fall on a roof and cause a destructive fire. Won't you adopt the plan of having a Clean Up Day every day, and help reduce the fire waste, which is of such enormous cost, not only to you, but to all your neighbors?

If rubbish is burned every night or morning, either in the furnace, or in a metal oven, with a mesh wire over the top, the danger of fire carelessness will be eliminated. If it is not destroyed every day, the pile grows and the danger of fire increases in like proportion. Oily rags will produce spontaneous combustion, and should always be kept in closed metallic receptacles. Many instances can be cited

where great destruction of property has occurred by fire started through the spontaneous combustion of oily rags which were thrown in a corner or closet and forgotten. Thousands of business men fail to safeguard their business, which strict economy and industry have created. Nor do they give a thought to the protection of the lives of their employes. They, of course, carry insurance, and, in case of fire, expect to be refinanced from this source; but those who have experienced such a loss know that no amount of insurance can restore lost trade, which becomes scattered as the inevitable result of fire loss which was probably caused by carelessness and could have been avoided by the prompt removal of fire breeding material and keeping the premises clean.

Fire prevention should dictate to every parent to see that the house in which he lives is a safe abode for his family. There should be protection against physical danger, theft, disease, fire, etc. The first two dangers should be taken care of when the house is built, while the last two are matters of more or less constant attention. When disease is indicated by symptoms, you immediately call a physician, but when fire threatens you, you are unprepared, though you should realize that danger from that source is constant and comes when least expected. You can be prepared by the introduction of fire extinguishers that can be used by even the children, and should do so at once. They are considerably less expensive than a fire and have been the means of saving many lives and much property. Two or three one-quart extinguishers placed through the house, ever ready for emergencies, will certainly produce a sense of security in the minds of the inmates and perhaps be instrumental in saving from destruction the property that represents the expenditure of years of energy and deprivation of many pleasures.

FIRE PREVENTION AS ESSENTIAL AS FIRE FIGHTING.

The aim of every company comprising a fire department is naturally to reach the highest point of efficiency in equipment in fighting fires and rendering to the community the best of service. In addition to fighting fires and of equal, if not of more importance, should be the prevention of fires which would mean the saving of many thousands of dollars, and in reducing the risk of loss of life assumed by every member of a fire company when responding to a fire. Fire prevention is today recognized in many of the States as of great importance, and associations are being formed for that purpose. Not to be behind other States the State Fire Marshal would suggest and urge that the chief and individual members of every fire company in the State become thoroughly familiar with the construction of the buildings in their respective districts, by making frequent inspections of the same and report to the proper official any building or other structure, that by reason of its condition is found especially liable to fire and that is so situated as to endanger other property, also, report any accumulation of trash or rubbish in or about buildings that by reason of its inflammable nature might cause fire. Interest should be taken by members of a company in knowing that their district is clean and that all fire traps and possible cause of fire is positively eliminated.

Fire prevention should appeal to and be the slogan of every company and work along that line should be vigorously pushed. The preparedness of companies for emergencies should not be neglected, and every company, whether large or small, should have proper and full equipment for the fighting of fires; care should be given to the selection of the apparatus and particularly to the quality and care of hose. After using hose it should be thoroughly dried and placed on truck or reel so as to be in readiness for instant service when again required. Especial attention should be given in the selection of hose couplings, and they should be of standard size and interchangeable with that used by other companies and communities, so that no delay will occur when an occasion arises, making it a necessity to extend line or use of hose belonging to other cities or boroughs.

Look well into the water supply for fire purposes; see that it is adequate at all times; see that feed pipes are of sufficient size to give a strong pressure. Do this at once so that when a fire occurs you will not be hampered in your efforts to save property, and be

compelled by lack of water to stand about in a helpless manner. Go over the fire hydrants; see that there are sufficient in number and that they are placed, if possible, not over 500 feet apart. Make it the duty of some particular member of the company to frequently flush pipes and be watchful in winter time that hydrants do not freeze. A little attention may be the means of saving both life and property that otherwise might be sacrificed from this neglect.

In boroughs or towns where an electric fire alarm system has not been installed, or where no definite system is in use, it has been found by experience that the numbering of the fire plugs from number one (1) up to the number of plugs provided, is a simple and effective system and has given excellent satisfaction where used, and by issuing cards (which most any public spirited merchant will have printed with advertisement on front) giving the number and location of each plug, and distributing cards to each and every householder, they become familiar with the location of the hydrant nearest to their home and can readily tell the location in case of a fire. When fire is discovered a telephone message should be sent to the fire headquarters or designated place giving the number of nearest hydrant and an alarm sounded, either by bell, whistle, or by the old fashioned steel tire alarm—such as in in use in many sections of the country.

As an example as to marking hydrant, say "A hydrant is located at the corner of two principal streets," this plug could be numbered one (1) and its location noted on the cards and one stroke of a bell or one toot from a whistle or a stroke on the tire alarm, at intervals 1-1-1, would indicate that the fire was near this plug. If the fire was near plug numbered twenty-five (25) which might be situated on the outskirts of the town, there would be two strokes then an interval and then five strokes following, indicating (1-1—1-1-1-1-1) the location nearest the fire. The alarm should be repeated at least three times. This system can be carried on by such strokes as to cover any number of plugs. If desired the borough could be divided into fire districts numbered one (1) to nine (9) indicating first district; eleven (11) to nineteen (19) second district, and twenty-one (21) to twenty-nine (29) third district, and so on covering the number of districts that may be selected by those in authority.

Join the crusade for Fire Prevention, and remember prevention means the saving of precious lives and valuable property.

POLICING UP.

The Army's term for putting things in order, for cleaning all property and locations is "policing up." If it's the room around a bunk to which this order applies, it means that every crack in the floor is to be cleared of dust; every blanket in prescribed order to the fraction of an inch; shoes lined up under bunk, shined, with not the end of a shoe lace lying out on the floor; no match stubs or cigarette butts laying around, and no article in sight which is not there by order of the Commanding Officer.

If it's the ground and walks around the barracks which are made the objective of this policing up detail every grass blade must be the same length, and not a thing there but grass and good solid orderly ground. Every pebble in the gravel walk is put in its place and the whitewashed runners along the edges are made spotless and lined up to a "T." If it's the captain's room the collective interior is shined with a vehemence down to almost the soles of the officer's boots. "Policing up" is cleaning up in the maximum degree in the Army.

Each unit in the Army down to the individual soldier is policed up before inspections and they come more often than meals. All divisions great and small are ranked according to the grades given at these inspections. This ranking of appearance is perhaps paramount in the whole military discipline. Police duty never stops. Maybe the dreams of many of the boys pictured the joy and freedom of going over the top where for the time being anyhow there would be no policing up. But relentlessly each platoon of our Army drilled and trained under this same grading and ranking according to the diligence and interest shown in police duty. Those divisions ranking first were picked first for every great emergency. It may be a false basis on which to judge the strength of men, some skeptics might say, but the boys at Chateau-Thiery were picked that way.

If such methods are deemed necessary for the protection of the health of our soldier boys and the preservation of the property, why is it not just as essential that the same means be adopted for the preservation of the health and property of the citizens of our State? Get the habit of putting things in order and keep all premises clean, and the saving of life and property will fully repay for the efforts put forth and an additional satisfaction will be, that you are following out the routine of your loved ones who went forth for the preservation of the liberties of mankind.

INSPECTION.

PROTECTION—PREVENTION.

The public generally assume that fire fighting is the only duty that fire departments should be called upon to perform, and continue year after year paying taxes or contributing towards the expenses of the department, and are prone to condemn the firemen, if, owing to some good fortune they remain inactive because of the fact that during certain periods there are no alarms to call them into service.

Firemen should not be condemned for this inactivity, but it should be understood that just as long as there are no fires, that there is no loss of property with possible loss of life, and that it means a saving to the community and the longer the department remains idle from such a cause it is a paying investment, but even though there be no fires to call the firemen to service they should and can render valuable service by the use of their time in the prevention of possible fires, by the inspection of the properties in their district and familiarizing themselves with every detail of construction of buildings, recording defects or any hazardous conditions and having the same corrected.

Fire prevention and building inspection is an advantage to the firemen in fighting a fire and they should know not only the buildings, material and mode of construction, entrances, and the best points at which a fire can be fought no matter in which portion of the building it may have started. The only way to gain these details is by frequent inspections, which should also include the recording of existing fire hazards, also conditions that might become fire hazards and issuing orders for immediate remedying defects and following up orders to see they are complied with.

The value of thorough and frequent inspections of properties, and the correcting of menacing conditions can not be over-estimated, and it is by this means only that a reduction of the fire waste can be effectually made. Fire losses are increasing instead of decreasing notwithstanding strenuous efforts being put forth for their reduction, and they will continue to increase until there is an awakening of the people to the effect that their own carelessness is absolutely responsible for the burden of taxes they are unnecessarily carrying. When this awakening occurs then there will be a reduction in fire losses, and insurance premiums, and a consequent saving of prop-

erty which today is destroyed, the destruction of which places additional burdens on the tax payers of every community throughout the State.

Education and co-operation will be found potent elements in accomplishing a reduction in the fire waste, and if successfully carried out by associations and individuals, will result in the prevention of fires and loss of life. Education should be with the children, both in the schools and home, and should be carried to the grownups into all factories, shops and stores. School children should be taught the danger of fire, and how to avoid this danger by being shown the effect of carelessness, which is the greatest cause of fires. They should be taught the danger of handling matches, lighted candles and lamps; how to protect woodwork in and around stoves; how to dispose of hot ashes, cautioned about drying clothes too close to stoves; danger of open fires; disposal of rubbish, not allow it to accumulate; the importance of keeping premises clean; danger of gasoline and kerosene; not to build bon fires, or if burning leaves, not to leave until sure fire is entirely extinguished; they should be taught the danger from leaking gas, and cautioned not to attempt to find a leak with match or open light. Teach the children carefulness in all that pertains to clean living and safety from fire, and the work of prevention of fire will become second nature with them, and the enormous losses which are today as unnecessary as disgraceful, will cease.

Co-operation among all classes of people will also result in a vast reduction of this loss. Everybody likes to live in a community of "good citizens," which means those who respect the rights of others, and if every neighbor respected the rights of others and endeavored to keep his property free from all that might menace his neighbors' property, such as removal of all fire breeding waste, there would be nothing for fire to feed on, and as a result fewer fires, and this would be the first step in Fire Prevention.

There are the three main points to consider in the prevention of fires—First, a good citizen will try in every way to avoid the cause of danger through permitting any practices that would endanger his neighbor; second, he will remove all dangerous or menacing conditions that he may find in his own home; third, he will train himself and family to recognize dangerous conditions in the community and will use his influence both to have them removed and to educate others in habits of carefulness.

HE STRUCK A MATCH TO FIND THE OIL—HE DID.

A victim of the playful antics of a lighted match carelessly dropped on an oil covered floor. Result weeks of agony in hospital, and the destruction of store and dwelling, entailing a loss of $9,000.

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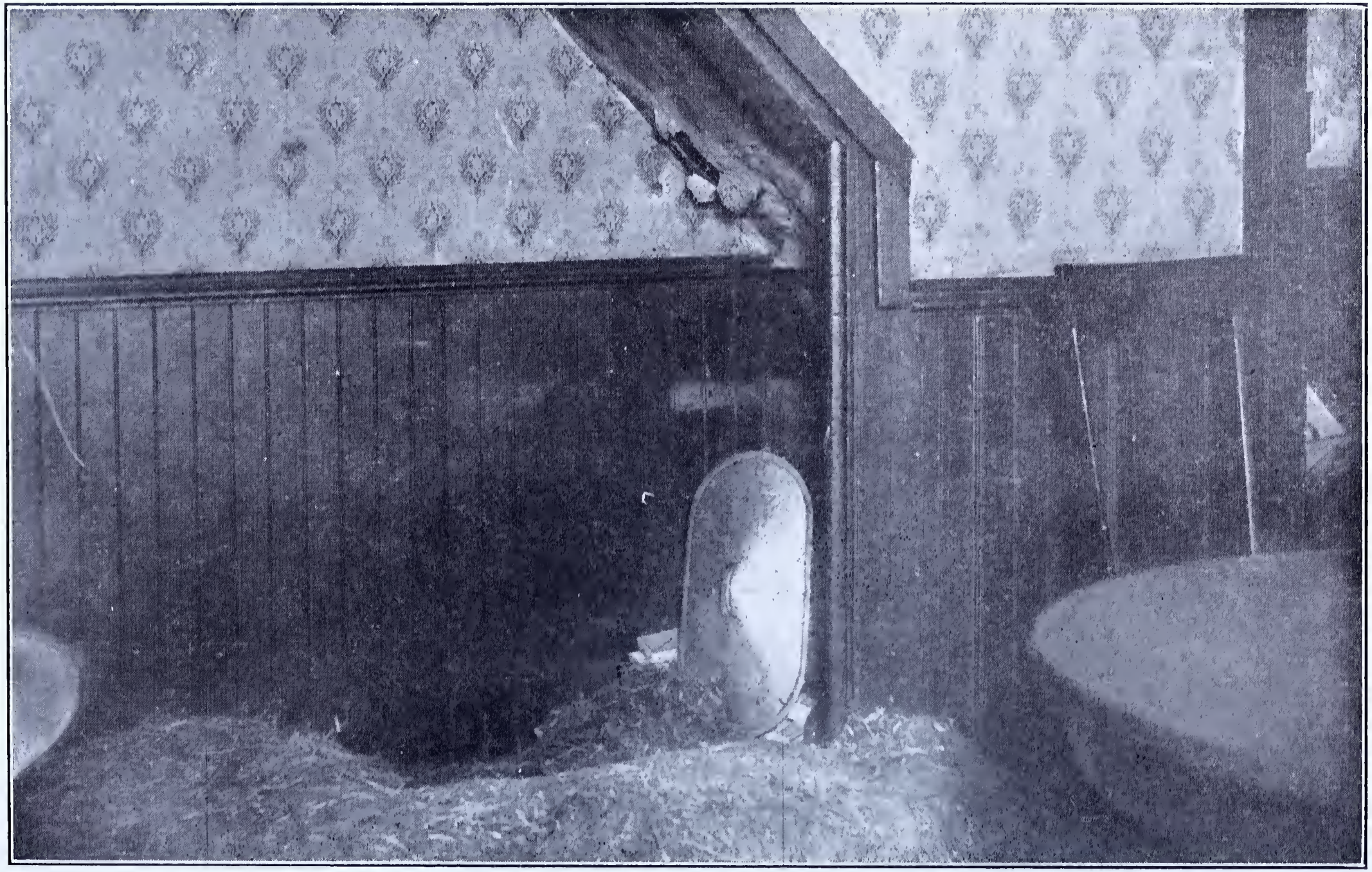
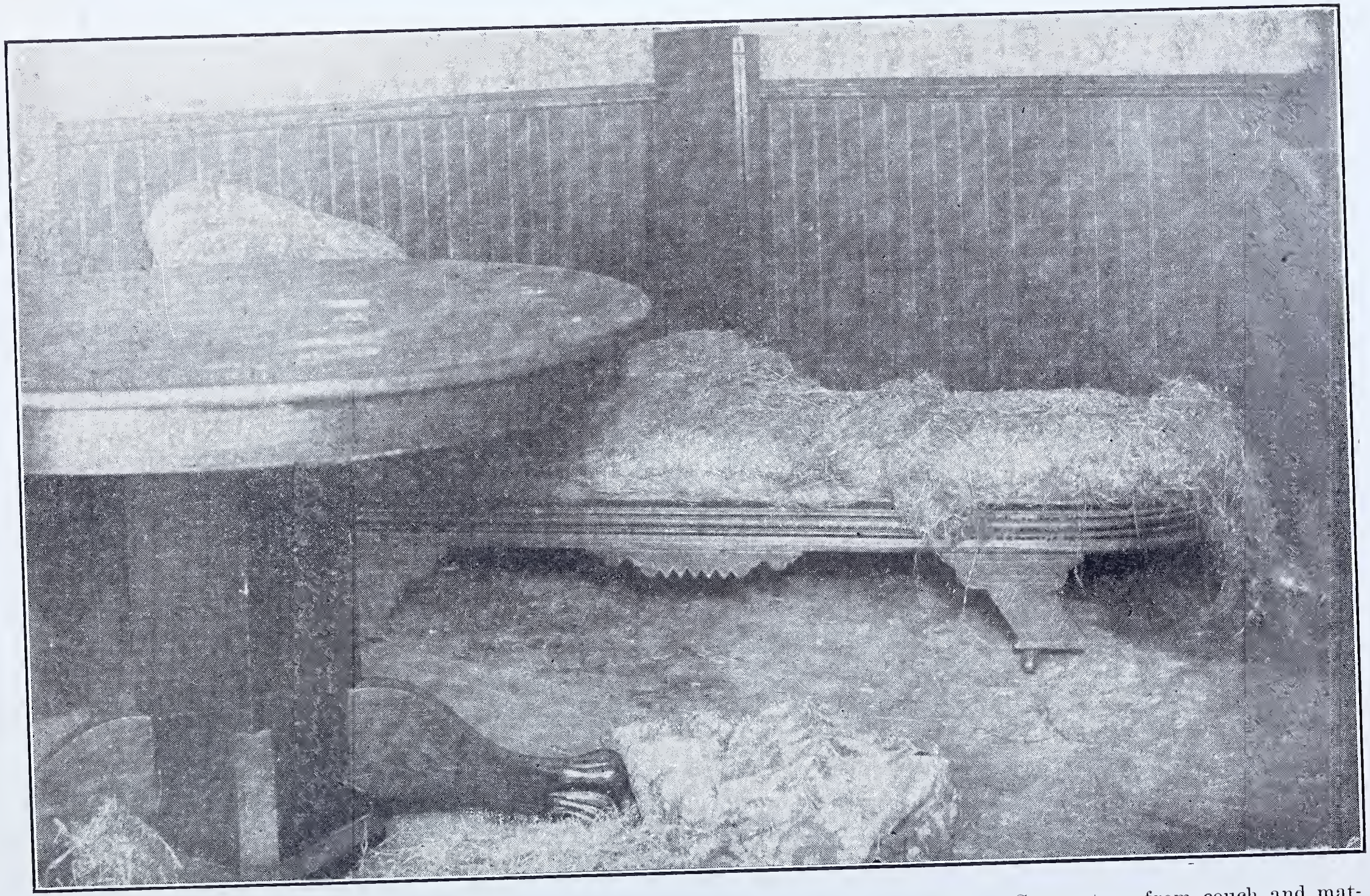


Preparations made for burning a dwelling for the purpose of collecting insurance. Covers torn from couch and mattress; excelsior, straw and rags saturated with coal oil scattered over floors of rooms and hallway. The prompt action of the Fire Department prevented destruction of this and adjoining properties and revealed the design of the arsonist.



Preparations made for burning a dwelling for the purpose of collecting insurance. Covers torn from couch and mattress: excelsior, straw and rags saturated with coal oil scattered over floors of rooms and hallway. The prompt action of the Fire Department prevented destruction of this and adjoining properties and revealed the design of the arsonist.

NUMBER OF FIRES REPORTED SHOWING VALUE OF PROPERTY LOSS AND INSURANCE, NOVEMBER, 1918.

(Exclusive of Philadelphia and Pittsburgh).

Counties.	Number of Fires.	Estimated Value.	Estimated Loss.	Amount of Insurance.
Adams,	3	$423,000	$3,300	$313,166
Allegheny,	45	108,900	15,079	79,525
Armstrong,	5	8,000	4,380	4,500
Beaver,	5	9,300	3,322	7,200
Bedford,	1	600	455	600
Berks,	34	458,758	15,254	382,920
Blair,	16	160,000	2,361	78,250
Bradford,	10	68,500	23,783	182,000
Bucks,	5	15,927	7,450	7,100
Butler,	8	30,250	979	14,400
Cambria,	14	56,700	2,314	28,500
Cameron,	2	5,500	152	3,400
Carbon,	3	12,340	1,274	10,050
Centre,	3	304,500	304,500	302,800
Chester,	16	153,100	12,577	52,405
Clarion,	2	1,300	12	1,000
Clearfield,	6	6,225	3,472	2,900
Clinton,	3	3,100	858	1,525
Columbia,	2	3,400	135	950
Crawford,	12	23,900	4,543	7,850
Cumberland,	7	14,950	5,783	8,800
Dauphin,	19	59,300	2,489	26,050
Delaware,	12	22,450	1,261	16,600
Elk,	1	500	30	500
Erie,	55	1,067,022	21,769	1,091,008
Fayette,	16	64,726	23,147	32,200
Franklin,	3	2,325	747	1,800
Fulton,	2	900	20	550
Greene,	2	2,700	19	1,300
Huntingdon,	12	65,190	22,154	14,450
Indiana,	5	32,859	11,688	13,200
Jefferson,	3	17,752	2,448	6,500
Juniata,	1	225	225	300
Lackawanna,	49	582,862	102,724	313,900
Lancaster,	24	138,950	12,839	208,285
Lawrence,	8	13,155	5,750	10,100
Lebanon,	7	64,087	24,821	37,277
Lehigh,	12	148,770	25,357	133,000
Luzerne,	32	228,521	121,937	87,000
Lycoming,	14	89,400	2,719	66,100
McKean,	8	13,422	5,757	6,700
Mercer,	10	32,900	675	10,550
Mifflin,	6	1,660	1,660	900
Monroe,	1	3,700	20	3,300
Montgomery,	20	130,950	16,467	94,150
Northampton,	13	40,100	6,482	27,480
Northumberland,	7	15,708	2,802	9,460
Perry,	1	400	10	400
Pike,	2	3,700	39	3,700
Potter,	3	2,825	1,950	2,100
Schuylkill,	11	114,934	32,807	44,775
Somerset,	7	11,300	4,365	10,250
Susquehanna,	6	21,550	6,948	11,900
Tioga,	3	2,950	1,775	1,000
Venango,	5	12,620	4,209	6,800
Warren,	7	521,932	8,240	471,600
Washington,	29	110,908	23,116	38,000
Wayne,	5	3,800	842	3,150
Westmoreland,	18	251,326	14,857	104,600
Wyoming,	2	3,450	3,200	2,000
York,	12	64,671	11,124	31,875
Total,	655	$5,834 750	$941,472	$4,434,651

CLASS OF STRUCTURES DESTROYED OR DAMAGED BY FIRE, NOVEMBER, 1918.

(Exclusive of Philadelphia and Pittsburgh).

Structures.	Number of Fires.	Loss.
Academies, boarding schools, colleges, universities,	3	$300,255
Apartment houses, boarding houses, dwellings,	328	102,314
Automobiles,	8	1,449
Bank and office buildings,	2	50
Barns and stables (city and town),	18	15,670
Boat houses,	2	3,080
Chapels and churches,	1	7,000
Club, lodge and society rooms,	3	4,115
Cotages, club houses and season homes,	2	3,804
ELETRIC RAILWAY PROPERTY:		
Passenger cars,	2	1,575
Farm crops in field,	3	302
FARM PROPERTY:		
Barns and stables,	34	79,111
Dwellings,	77	50,346
Out buildings,	2	1,697
Garages—private,	3	2,781
Garages—public,	8	18,491
Hospitals and sanitariums,	2	41
Hotels,	9	8,787
Jails, prisons and reform schools,	1	20
Junk shops and yards,	1	1,350
Livery and sale stables,	1	1,913
MANUFACTURING AND INDUSTRIAL ESTABLISHMENTS:		
Bakeries,	1	45
Blacksmith shops,	1	100
Breweries,	1	1,000
Carpenter shops,	1	1,600
Carriages and wagons,	2	12,540
Cigars and cigarettes,	2	3,009
Cleaning and dyeing,	1	28
Clothing (men's), linens, hats, caps, gloves,	1	1,437
Coal and wood yards,	1	504
Coal mining property,	2	100,350
Creameries,	1	3,823
Electrical and gas goods and appliances,	1	1,300
Furniture,	2	6,252
Hosiery and knitting,	1	732
Iron and steel, blast furnaces, foundries, rolling mills,	7	3,070
Laundries,	2	15,042
Metal—miscellaneous,	1	35
Miscellaneous,	7	17,033
Paints, varnishes, oils,	1	175
Planing mills,	2	1,550
Printing establishments,	1	2
Saw mills,	2	1,715
Textile,	1	450
MERCANTILE ESTABLISHMENTS:		
Agricultural implements,	1	20
Automobiles and accessories,	1	200
Boots and shoes,	2	402
Department and general stores,	2	465
Florists,	1	16,413
Flour, feed and hay,	1	20
General stores (rural),	1	4,000
Groceries,	5	3,665
Hardware,	1	3,000

CLASS OF STRUCTURES DESTROYED OR DAMAGED BY FIRE, NOVEMBER, 1918.—Continued.

Structures.	Number of Fires.	Loss.
Meats,	1	4,746
Men's furnishings,	1	12
Millinery,	1	15
Miscellaneous with dwelling occupancy,	40	23,374
Restaurants,	1	208
Tobacco and cigars,	1	6,000
Wholesale groceries and fruits (and retail),	1	300
Miscellaneous,	12	5,287
Out buildings (city and town),	6	----------
RAILROAD (STEAM) PROPERTY:		
Freigth rolling equipment,	1	----------
Passenger stations,	1	125
Shops,	1	400
Tool houses, towers, water stations,	1	325
Road houses, saloons and taverns,	1	5,000
Schools—public,	6	79,759
Tanks (inflammable oils and liquids),	1	4,298
Theatres and motion picture houses,	2	25
General storage,	7	2,490
Total,	655	$941,472

MATERIALS USED IN CONSTRUCTION OF BUILDINGS DESTROYED OR DAMAGED BY FIRE, NOVEMBER, 1918.

(Exclusive of dhiladelphia and Pittsburgh.)

Material.	Number of Fires.	Loss.
Brick,	128	$117,049
Brick and stone,	2	301,100
Concrete,	5	15,801
Stone,	10	14,141
Wood or frame,	482	462,372
Wood with brick or stone,	6	4,035
Unclassified,	13	7,484
Iron covered (galvanized),	3	16,518
Not reported,	6	2,972
Totals,	655	$941,472

CAUSE OF FIRE AND LOSS INCURRED, NOVEMBER, 1918.

(Exclusive of Philadelphia and Pittsburgh).

Cause.	Number of Fires.	Loss.
Adjoining fires,	52	$29,815
Ashes (hot)—Careless disposal,	2	790
Backfire,	2	1,850
Candle carelessness,	6	560
Chimney—flues—stacks—Defective and overheated,	54	17,534
Cigars and cigarettes (lighted)—Carelessly discarded,	12	4,677
Clothing and curtains exposed to contact with stove, heating appliances, and unprotected lights,	23	1,753
Coals (hot)—Falling from stove or furnace,	5	91
Cooking appliances (electric—gas—alcohol)—Carelessly used,	2	56
Electric, flat and gas iron carelessness,	6	182
Electric wiring—defective,	11	14,776
EXPLOSIONS:		
Alcohol—gas and oil lamps,	9	4,057
Alsohol—gas and oil stoves and heaters,	17	828
Coal oil and kerosene—Starting fires and filling lamps and lanterns,	4	1,657
Gas leak,	5	2,398
Gasoline—benzine—naphtha—Careless use and cleaning with exposed to fire or unprotected lights,	5	800
Gasoline—Pipe or storage leak,	3	210
Oils (inflammable)—Ignition,	2	5,798
Water back,	1	82
Fireplace—Defective or overheated,	9	545
Fireworks,	1	10
Flat irons and bricks (heated)—Used for warming purposes in bed,	1	30
Furnaces, heaters, stoves, and their pipes—Defective or overheated,	23	8,370
Fumigation,	4	82
Grease ignition on stove,	1	10
Incendiary,	8	6,832
Lamps and lanterns—overturned,	4	7,132
Lightning—(buildings rodded),	1	3,800
Lightning—(buildings not rodded),	1	125
Lightning—(no report as to rods),	3	2,662
Matches—Careless use and keeping,	31	5,843
Matches—Children,	39	16,569
Matches—(lighted)—Carelessly discarded,	2	25
Metals (hot), asphalt, tar, pitch, etc.—Ignition of,	6	8,833
Miscellaneous,	8	3,178
Motion picture apparatus and films,	1	10
Ovens (bakery)—Defective or overheated,	1	45
Smoking—carelessness,	3	610
Smoking in bed,	6	2,185
SPARKS:	6	435
Chimneys, flues, stacks, cupola (exposure—adjoining fires),	39	17,551
Fireplace,	2	1,803
Locomotive,	4	310
Motors,	1	732
Running machinery (friction),	3	1,022
Rubbish and brush burning,	8	2,484
Stationary engines, tractors, etc.,	1	85
Spontaneous combustion,	7	2,695
Tramps,	1	10
Undetermined,	201	756,672
Woodwork and furniture exposed to contact with stove, heating appliances and unprotected lights,	7	1,523
Totals,	655	$941,472

NUMBER OF INSPECTIONS MADE AND ORDERS ISSUED FOR REMOVAL OR REMEDYING OF FIRE HAZARDS.

During the Month of February, 1919.

Buildings Inspected.	Number of inspections.	Removal of or general repairs to dilapidated buildings.	Removal of rubbish and waste accumulation and regulating proper disposal thereof.	Regulating proper storage of explosives (petroleum products—chemicals—powder).	Repair chimney or stovepipe connections.	Repair roof.	Repair defective wiring.	Change or repair lighting arrangement.	Install fire extinguishers—sand or water buckets.	Close up openings in buildings.	Total number of orders.	Orders not necessary.
Apartment houses, boarding houses, dwellings,	5	4	0	0	1	0	0	0	0	0	5	0
Bank and office dwellings,	7	0	0	0	0	0	0	0	0	0	0	7
Barns and stables (city and town),	11	11	7	0	0	0	0	0	0	0	18	0
Billiard (pool) halls and bowling alleys,	3	0	0	0	0	0	0	0	0	0	0	3
FARM PROPERTY:												
Outbuildings,	1	0	1	0	0	1	0	0	0	0	2	0
Garages—public,	18	1	1	1	0	0	0	0	1	0	4	15
Hotels,	7	0	0	0	0	0	0	0	0	0	0	7
Livery and sale stables,	1	0	0	0	0	0	0	0	0	0	0	1
MANUFACTURING AND INDUSTRIAL ESTABLISHMENTS:												
Bakeries,	4	0	0	0	0	0	0	0	0	0	0	4
Blacksmith shops,	2	1	1	0	0	0	0	0	0	0	2	1
Cigars and cigarettes,	4	0	0	0	0	0	0	0	0	0	0	4
Cobblers,	6	0	0	0	0	0	0	0	0	0	0	6
Confectionery,	1	0	0	0	0	0	0	0	0	0	0	1
Crockery, earthenware, pottery,	1	0	0	0	0	0	0	0	0	0	0	1
Feed and flour,	8	0	0	0	0	0	0	0	0	0	0	8
Laundries,	2	0	0	0	0	0	0	0	0	0	0	2
Leather goods and saddlery,	2	0	0	0	0	0	0	0	0	0	0	2
Machine and repair shops—variety,	1	0	0	0	0	0	0	0	0	0	0	1
Miscellaneous,	3	0	0	0	0	0	0	0	0	0	0	3
Plumbing and tinning,	7	0	0	0	0	0	0	0	0	0	0	7
Printing establishments,	3	0	1	0	1	0	0	0	0	0	3	2
Tobacco,	1	0	0	0	0	0	0	0	0	0	0	1
Woolen mills,	3	0	0	0	0	0	0	0	0	0	0	3
MERCANTILE ESTABLISHMENTS:												
Automobiles and accessories,	2	0	0	1	0	0	0	0	0	0	1	1
Barber shops,	10	0	1	0	0	0	0	0	0	0	1	9
Boots and shoes,	16	0	1	0	0	0	0	0	0	0	1	15
Confectionery and ice cream,	7	0	0	0	0	0	0	0	0	0	0	7
Department and general stores,	14	0	3	0	0	0	0	0	0	0	3	11
Drugs and medicines,	17	0	3	0	0	0	0	0	0	0	3	14
Electrical and gas fixtures and supplies,	4	0	0	0	0	0	0	0	0	0	0	4
Florists,	2	0	0	0	0	0	0	0	0	0	0	2
Flour, feed and hay,	3	0	0	0	0	0	0	0	0	0	0	3
Groceries,	23	0	4	0	0	0	0	0	0	0	4	19
Hardware,	10	0	0	0	0	0	0	0	0	0	0	10
Hats and caps,	1	0	0	0	0	0	0	0	0	0	0	1
House furnishings,	14	0	1	0	0	0	0	0	0	0	1	13
Jewelry,	6	0	0	0	0	0	0	0	0	0	0	6
Ladies' furnishings,	5	0	1	0	0	0	1	0	0	0	2	4
Leather goods and harness,	1	0	0	0	0	0	0	0	0	0	0	1
Meats,	7	0	1	0	0	0	0	0	0	0	1	6
Men's furnishings,	12	0	3	0	0	0	0	0	0	1	4	9

NUMBER OF INSPECTIONS MADE AND ORDERS ISSUED FOR REMOVAL OR REMEDYING OF FIRE HAZARDS.—Concluded.

Buildings Inspected.	Number of inspections.	Removal of or general repairs to dilapidated buildings.	Removal of rubbish and waste accumulation and regulating proper disposal thereof.	Regulating proper storage of explosives (petroleum products—chemicals—powder).	Repair chimney or stovepipe connections.	Repair roof.	Repair defective wiring.	Change or repair lighting arrangement.	Install fire extinguishers—sand or water buckets.	Close up openings in buildings.	Total number of orders.	Orders not necessary.
Millinery,	1	0	0	0	0	0	0	0	0	0	0	1
Miscellaneous with dwelling occupancy,	3	1	3	0	0	0	0	1	0	0	5	0
Musical instruments and sewing machines,	3	0	0	0	0	0	0	0	0	0	0	3
Notions and novelties,	2	0	0	0	0	0	0	0	0	0	0	2
Photographers,	1	0	0	0	0	0	0	0	0	0	0	1
Restaurants,	11	0	0	0	0	0	0	0	0	0	0	11
Stationery and wall paper,	4	0	2	0	0	0	0	0	0	0	2	2
Tailoring,	9	0	0	0	0	0	0	0	0	0	0	9
Tobacco and cigars,	6	0	0	0	0	0	0	0	0	0	0	6
Wholesale groceries and fruits,	8	0	4	0	0	0	0	0	0	0	4	4
Miscellaneous,	5	0	0	0	0	0	0	0	0	0	0	5
Outbuildings (city and town),	1	1	1	0	0	0	0	0	0	0	2	0
Telegraph and telephone exchanges,	1	0	0	0	0	0	0	0	0	0	0	1
Theatres and motion picture houses,	1	0	0	0	0	0	0	0	0	0	0	1
WAREHOUSES AND STORAGE:												
General storage,	1	0	0	1	0	0	0	0	0	0	1	0
Ice,	1	1	1	0	0	0	0	0	0	0	2	0
Totals,	313	20	40	3	2	1	1	2	1	1	71	260

SAVING SOOT IS EXPENSIVE HABIT.

Most people have believed that the only benefits received from employment of a chimney-sweep were better drafts for their fires and less danger of sparks igniting their roofs. One of the greatest services of the chimney-sweep, however, is to cut down coal consumption. Technical Paper No. 205 of the Federal Bureau of Mines, entitled "Saving Coal in Boiler Plants," states that commonly 35 per cent. of all the heat generated by the burning of a ton of coal goes up the chimney, or in other words, that 35 out of every 100 tons of coal burned goes to feed heat into chimneys. When other heat wastes are considered, it commonly occurs that only 40 per cent. to 50 per cent. on the average of the heating value of coal is usefully employed in heating a house or a building.

A considerable part of this chimney heat wastage can be avoided by keeping the chimney free of soot. According to the Federal Fuel Administration for Indiana, "one one-hundredth inch of soot has the heat resisting power of ten inches of iron. If the chimney and furnace is not to absorb more heat than is thrown out for the house the furnace must be kept clean of soot." The administration adds, "Cleaning the furnace may be a dirty job, but it pays big dividends in comfort and money saved."

Keeping the chimney clean or a regular employment of a chimney-sweep to do the job is a dividend-paying investment. It saves coal, it saves labor and worry in maintaining fires; it averts the danger of flue and spark from the chimney fires.—Fire Protection.

LET FIRE PREVENTION BEGIN AT HOME.

An earnest appeal is being made to women in Pennsylvania to help in the fight against fire. The fire waste in this State involves not only a great loss of property, but of lives also. Some women may feel that it is strange that an appeal should be made to them, but they are more deeply interested than others, and can accomplish as much, if not more, in stopping loss of life and property. Women with love of home will not fail to heed calls of this kind, especially when the appeal is so urgent and affects her children's safety.

To give an idea of this toll, remember that every great city in the old world from Carthage up to the present day, has on one or more occassions been destroyed by fire, and practically every large city in America has had its destructive fire. The annual fire loss in the United States and Canada approximates two hundred and fifty million dollars ($250,000,000). And in our own State this destruction, not counting the loss of life, amounts to approximately twenty million dollars ($20,000,000) per year.

It perhaps occurs to a woman to ask: "What have we to do with such things?" The loss of life and property strikes the women perhaps harder than others. They can unite in helping to stop this waste. The annual loss of property in Pennsylvania by fire and the expenses necessary to keep it down as much as possible amounts to thousands of dollars annually, and sixty per cent. of the loss is preventable and caused by neglect and carelessness. The largest number of fires occur in dwellings, the woman being generally considered the sole director of everything in her home. She can do more in correcting the things that are wrong in and around the home than anyone else; and she can do more than looking after her own home by teaching children to avoid everything that will cause fire and assist in carrying educational work on fire prevention into the public schools, giving the pupils an advantage over the grownups who did not have the danger pointed out to them during their school days. These children will take this knowledge home, and parents who perhaps never have given the subject thought will awake to the dangers that have surrounded them for years and profit by the teachings of the children. Thus in Fire Prevention, as in many other causes the children will lead—by knowledge in protecting homes and parents from thoughtless indifference and neglect in the prevention of fires.

MONTHLY BULLETIN

"MAKE PENNSYLVANIA FIREPROOF"

Department

OF THE

State Fire Marshal

OF

Pennsylvania

OFFICE—ROOM 166
Capitol Building, Harrisburg, Pa.
HOWARD E. BUTZ, State Fire Marshal

VOL. VI MAY, 1918 No. 38

DEVELOPMENT OF CIVIC RESPONSIBILITY.

Women have been developing a sense of civic responsibility since the organization of the first woman's club over fifty (50) years ago, and the fact that war work has occupied the time and attention of women everywhere during the past few years has not lessened, but only increased, our acknowledgment of our duty towards our neighbors, and now that work is gradually lessening its demands we will turn our attention to things nearer home and do our part in this reconstruction period of helping to save Pennsylvania the $18,000,000 and the lives lost annually. The United States Commissioner of Education says, "If each of the school children in the United States would learn how to prevent fire and form habits of carefulness and consideration, it would go far in saving lives and property. Each child would be to this extent a good citizen for one of the first requirements of citizenship is to care for your own property and to acknowledge and respect the rights and property of others."

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Monthly Bulletin

Department

OF THE

State Fire Marshal

OF

Pennsylvania

HOWARD E. BUTZ, State Fire Marshal

BULLETIN OF INFORMATION FOR THE PUBLIC

MAY, 1919

HARRISBURG, PENNA.:
1919

"PREPAREDNESS."

"Preparedness" is a slogan which appeals to the American people, now as never before. It was the keynote to the soul-stirring, history-making period through which we have just passed, and now that the aftermath and the time for reconstruction is at hand, the vital significance of that word reaches us with a force that would not have been possible for us to feel in the past. Especially does this slogan appeal to the American mother who saw her boy suddenly torn from his daily routine and the influence of her watchful love and care—to face German bullets, and the sometimes greater horrors of the trenches. She knows that had the world been prepared it would not have been necessary to sacrifice her child.

The war is over. Countless lives have been lost, millions of dollars have been expended, and the very foundation of civilization shaken. And now it is time for us to face and defeat another Enemy, and that Enemy is the fire menace. Preparedness to meet this foe is as important as it was in the crisis of the World War, and the mothers wives and sweethearts of America are the ones upon whom devolves the greater responsibility of checking the devastations of this arch Enemy. This is only fully realized when we stop to consider official statistics prove that nearly sixty per cent. of the conflagrations which come to notice are caused by carelessness of some sort or another, whether it be an accumulation of rubbish, rags and oily waste, dilapidated and unclean premises, defective stoves, chimneys or electric wiring which need repairing, or any of the other numerous causes of fire that can so easily be headed under "carelessness."

In how many homes does one or all of these inexcusable conditions exist. The mother who will clutch her child in her arms with unspeakable terror at the cry of "fire"—sisters and wives who knitted and sewed loyally and industriously for their brothers and husbands during the war will allow the dwelling places of these loved ones to become veritable fire traps, jeopardizing their lives and property, and menacing adjoining buildings—all because they disregard their obligations as house-wives, and are indifferent to the fact that an

ounce of prevention demonstrated each day by them in the way of cleaning up their premises is more than worth the proverbial "pound of cure" in the event of fire.

Thus we see that it is in the power of the women of America, and particularly the house-wives, to reduce to a minimum the terrific losses sustained each year in this country by fire, which amount to many lives and millions of dollars annually.

But how to accomplish this very important and necessary reformation? The most logical course would seem to be an attempt to impress upon the minds of our women the great need of their assistance in the matter, and the wisdom of making "every day a clean-up day" in each individual, rather than merely having one or two house-cleaning times annually. If the more active and aggressive women of a district would take it upon themselves to run an actual campaign—short but impressive—in the interest of this idea, and in the interest of Fire-Prevention, so that the less intelligent women of their vicinity would thoroughly understand its meaning and true significance—and appreciate to the utmost their responsibility as an individual in a community, an inestimable amount of progress could be made. If in your city, town or country YOU are a leader in any sense—whether in civic, social or religious circles, will you not take advantage of this opportunity to do a service for your country and your people, which would be just as helpful and worthwhile as any patriotic duty done during the darker days of war?

"Preparedness" against fire requires that steps be taken for its prevention, and that means be afforded for its extinction. Every Civic Club should, as a matter of course, have as one of its foremost aims the prevention of fire. However, this is not a duty that rests singly with Civic Clubs, and if the various local organizations of all kinds would but stop for intelligent thought, it would require but little impulse to induce these people to devote a few minutes of their meetings to outline and later hearing reports on an active campaign for the practical prevention of fire. All of these organizations can guide and lead in this important work, but in the end it is the individual who does the actual work or removing and preventing fire menaces, and it is the individual who *must* awaken to the duty of crippling the forces which aid fire in its ravages.

What steps to prevent this can be taken by the individual? In all wars the food supply is an all important factor in maintaining the strength of the Enemy. And just here is where each person can do his or her "bit" to aid in striking at the vulnerable spot in this menace. Do not be the one to provide the food supply for the fire demon, or allow conditions to exist in or about your premises that will make it possible for your conscience to tell you some day that YOU were directly or indirectly responsible for a catastrophe that perhaps took the lives of your best loved ones, or maimed them for life, or destroyed valuable property and possessions. Everyone knows that rubbish, paper, old clothes, oily rags, etc., when allowed to accumulate in cellars, attics, or in yards near buildings undoubtedly constitutes a fire hazard, and offer a direct source of menace. The effort, time and care necessary to remedy or completely eradicate these conditions is so very small as compared with the awful toll and cost exacted when, through sheer carelessness, one is finally brought face to face with the Enemy, that it seems unbelievable an appeal to intelligent minds is necessary. But let good, old American common-sense come to the front now, and let each one of us attempt to do some practical thing each day that may assist in stamping out this great evil, though it be nothing more than interesting people to provide fire extinguishers for their homes, and water buckets to be placed in cellars and bath-rooms. We must remember each home in each community, whether it be large or small, is but a cog in the great intricate machinery of our nation, and by keeping this cog clean and in splendid working order we will be contributing to the efficiency and the conservation of the greatest country in the world—our own, our native land.

"Preparedness" does not mean waiting until an emergency or a crisis arrives and then endeavoring to do over-night what should have been the result of consistent, systematic effort. This can only bring about the chaos and misdirected action, of which we had a very real example in the early days after our entrance into the war. So in fighting the fight we have at hand now—the fire menace—let us take the offensive and not give the Enemy an opportunity to come, like a thief in the night, giving us a "surprise attack"—in so

doing divesting us of our most treasured possessions. As thinking, intelligent people, let us make our slogan then, not for one day, but for three-hundred-and-sixty-five—PREPAREDNESS.

M. R. M.

FIRE PROTECTION IN RURAL DISTRICTS PRACTICABLE.

The methods of protection against fire in cities and boroughs has in the past few years undergone a decided change for betterment, but in the smaller towns and townships practically nothing has been done for adequately protecting property and the elimination of waste by fire. That there is no excuse for the existence of such conditions is evidenced by the advent of motor-drawn fire apparatus which has opened up a field of usefulness which, under the old method of horse-drawn apparatus could not cover a large amount of territory oweing to distance involved and the limit of equine endurance, and even to suggest to the smaller towns having such apparatus that they lend their assistance to their country brethren in their trouble, while perhaps received with a willingness to comply, yet under the circumstances it was necessary to reluctantly refuse to do so. This is now changed and if co-operation be established between localities having motorized apparatus and the surrounding country, taking in a radius of from five to ten miles, there is no reason why protection should not be readily afforded.

In these days of universal telephones the alarm can be given and auto apparatus make quick response over considerable territory. The combination chemical and hose wagon of the city department is, however, of little use beyond the reach of water mains, and the big water pumping engine with its ability to throw enormous volumes of water is too heavy for country roads and of too great a capacity for the water supply.

The small country town in rural districts gets most of its living from the farmer, and may find it a hard problem to get an efficient fire equipment. The hand engine and the small two-wheeled chemical have been more or less successfully supplemented in some cases by the elevated tank water system. This fire equipment, however, covers only a comparatively small area.

A light auto fire equipment, combining a chemical and pumping engine and hose wagon, has recently been brought out which admirably fills the requirements for the small town and is amply able to protect a considerable section of the surrounding country as well. If the small town and the rural district unite in the purchase of this equipment the benefit will be mutual and the cost very reasonable to all concerned. The rural populaion can thus be reasonably sure that a telephone call will find the town fire department equipped and ready to serve them promptly.

Apparatus now on the market seem especially adapted for this service. The cost is inconsiderable, especially when the extent of the protected territory is considered. Its foundation is a well known make of automobile, admittedly the most generally understood and used car in the country; the one for which supplies and repairs can be most readily and economically obtained. Carried on this machine is an efficient chemical equipment and a pumping outfit of sufficient capacity to handle any fires which might occur in the rural districts. One machine centrally located, would protect several villages and the surrounding country, while lightness would permit it to take water from sources unavailable to the heavy city apparatus. The very essence of successful fire fighting by a fire department is rapidity in getting to the fire with effective fire fighting machinery. All fires are the same size at the start, and the first five or ten minutes is the critical time which decides the amount of loss. This motor apparatus, which can be operated by any one capable of driving an automobile, enables the fire department to get there quickly and to do effective fighting when they arrive. Simplicity and rapidity of one of these machines eliminates much of the ordinary confusion attendant at all fires. Its quick arrival with the chemical would often prevent a small fire from becoming a large one. It would fight forest and brush fires effectually, as well as the large fires in village and town. If co-operation be established between localities having motorized apparatus and the surrounding country districts, there is no reason why protection should not be afforded.

Co-operation should be started by calling a meeting of the town people and those in a designed territory, and provisions made that certain portions of the expenses of maintenance of apparatus be borne by those who desired protection.

The road supervisors should be included in this meeting and induced to give especial attention to condition of the roads and bridges in each district in which protective measures are considered, for depending upon the condition of the roads and bridges rests the promptness of responding to the call for help.

This leads to the question which is agitating the entire State, "good roads," and it is time that fire departments who have by their enterprise and hard work succeeded in acquiring efficient apparatus, lend their aid to their less fortunate neighbors in the prevention of and protection against fire; and at the same time it is the duty of those desiring this aid to insist that the roads and bridges in their respective districts be so made and kept that regardless of weather, or other conditions, they will be assured at all times that when assistance be required that it will be forthcoming without delay or possible accident owing to road conditions.

Supervisors of roads should see that roads and bridges are always kept in first-class condition, permitting safe traveling over them regardless of other difficulties. This is a question of home safety and this movement should receive serious thought and a call sent to those whose property is without protection and immediate arrangements made with the nearest place having motorized apparatus to respond when needed. In return for service, which in many instances is made with considerable inconvenience by those who willingly respond to the call of their fellowmen, there should be a financial arrangement made to contribute a share in the upkeep of apparatus and a positive insistence on the part of the taxpayer that roads be kept in first-class condition, permitting the safe carrying of the heaviest apparatus.

The question of rural or township protection, although new in general, has already been agitated in several counties and has met with such a response that in the near future it is hoped that it will apply to the entire State. In one instance a call was made from a small hamlet, fourteen miles from a city which had but recently motorized their apparatus, and in thirty minutes from time of call two apparatus had responded and were in action, and in a short time after arrival the fire was under control. This was possible owing to the good condition of the roads and bridges and there is no reason why the same assistance should not be accorded to all localities not

equipped for fire protection, and depending on the liberality of those more fortunate localities in a position to respond when assistance is called for.

This question of rural fire protection is being discussed over all the the country. In Massachusetts and other New England states the old time town meetings, in which the voters of the town gather periodically and vote appropriations for various township needs, furnish a method of covering this requirement. Many townships have availed themselves of it and many more are planning to do so.

New York state has a fire district law under which, on a petition signed by a number of the voters the authorities can set off any stated section of the country named in the petition as a fire district and the voters in this district can elect fire commissioners, issue bonds and purchase fire equipment to be located in the center of the district for the protection of the whole district. In this State the rural population can subscribe to the purchase of fire apparatus to be located in a village for the protection of all subscribers. Other states are passing laws permitting the township authorities, on proper petition, to join with the villages and towns in purchasing apparatus for their mutual protection. The time is at hand when the rural districts can be protected against fire.

TO PREVENT FIRE.

Keep clear of all brush and grass in and about farm buildings.

Buildings should be so separated as to prevent forming connecting links in case of fire.

Material should not be placed within 15 ft. of any building, allowing enough space to pass through in case of fire.

Separate buildings should be provided for storage of lime, oils of all kinds, paints, hay and feed.

Gasoline should be in buried tanks and distributed in 5 gallon cans. Cans should be kept outside in buried boxes. Oils should be kept 50 ft. away from other buildings.

Prohibit open lights in buildings. Electricity should be used whenever and wherever possible.

Kerosene lamps with glass reservoirs should never be used.

Guard lights and lanterns should not be placed in or near buildings, or filled in buildings.

Power driven machines should not be permitted in buildings, or in buildings used for storage.

Gasoline driven machines should be in open sheds or metal buildings. Waste pipe kept clean.

The use of kerosene stoves or heaters should be avoided in so far as possible. Stoves to be protected by sheet metal plate extending 1 ft. on back and sides, and 18 inches in front, and not to be placed near wood partitions. If legs of stove do not extend 1 ft. from floor, place one or more sheets of asbestos boards under metal plate. Stoves without legs should be placed on a hearth of brick or concrete at least 18 inches in front. All wood work within 18 inches should be protected by sheets of asbestos covered with sheet metal, shield to extend at least two feet above stove.

Rubbish, building refuse and discarded material should be removed from in and around buildings, and daily taken and destroyed.

Refuse material saved for future use should be neatly piled away from buildings.

Care should be taken that no refuse is deposited beneath floors.

Avoid large fires in refuse pile.

Oily waste and paint rags to be burned daily.

Smoking should not be permitted in or around buildings.

NUMBER OF FIRES REPORTED SHOWING VALUE OF PROPERTY, LOSS AND INSURANCE DECEMBER, 1918.

(Exclusive of Philadelphia and Pittsburgh)

Counties.	Number of fires.	Estimated value.	Estimated loss.	Amount of insurance.
Adams,	1	$35	$25	$25
Allegheny,	38	169,500	27,942	95,650
Armstrong,	6	18,350	4,557	5,025
Beaver,	5	30,500	4,826	5,700
Bedford,	3	10,350	1,065	8,100
Berks,	30	256,833	90,599	175,075
Blair,	21	245,425	44,825	93,825
Bradford,	11	78,225	18,370	40,100
Bradford,	11	78,225	18,370	40,100
Bucks,	10	659,625	18,163	229,800
Butler,	5	117,950	86,887	4,900
Cambria,	4	15,300	8,663	4,900
Carbon,	2	4,269	3,644	4,100
Centre,	3	3,580	1,565	3,047
Chester,	16	41,702	17,756	21,624
Clarion,	5	14,020	9,626	2,650
Clearfield,	1	165,000	468	165,000
Clinton,	3	51,450	29,166	18,850
Crawford,	3	26,606	2,671	10,300
Cumberland,	9	19,050	3,687	7,900
Dauphin,	21	192,325	25,138	106,650
Delaware,	10	69,300	19,722	37,000
Elk,	2	3,000	87	1,500
Erie,	38	587,854	31,096	496,850
Fayette,	3	9,100	61	5,000
Franklin,	3	7,265	220	5,050
Huntingdon,	4	13,350	8,350	12,200
Indiana,	1	3,000	12	1,500
Jefferson,	1	2,000	10	1,000
Juniata,	1	2,500	1,934	2,500
Lackawanna,	24	234,050	30,969	165,900
Lancaster,	16	22,925	2,185	17,938
Lawrence,	4	14,100	2,931	8,700
Lebanon,	4	2,500	900	675
Lehigh,	14	377,125	8,316	128,800
Luzerne,	20	236,188	35,729	96,400
Lycoming,	16	285,202	29,993	141,583
McKean,	4	3,800	218	3,100
Mercer,	15	130,640	11,074	53,787
Mifflin,	3	6,500	3,576	4,451
Monroe,	5	18,150	1,254	16,650
Montgomery,	6	123,413	7,275	50,200
Northampton,	8	58,500	17,318	34,500
Northumberland,	6	81,075	27,925	29,250
Perry,	2	925	177	500
Pike,	2	700	40	350
Potter,	2	4,700	137	3,550
Schuylkill,	16	59,732	17,440	22,050
Susquehanna,	3	8,100	5,900	6,000
Tioga,	2	5,300	5,050	800
Venango,	10	111,100	709	98,750

NUMBER OF FIRES REPORTED SHOWING VALUE OF PROPERTY, LOSS AND INSURANCE DECEMBER, 1918—Continued.

Counties.	Number of fires.	Estimated value.	Estimated loss.	Amount of insurance.
Warren,	1	$5,800	$1,500	
Washington,	14	179,464	74,078	$165,300
Wayne,	2	45,936	32,919	24,600
Westmoreland,	12	58,600	12,619	43,500
Wyoming,	4	9,040	4,725	6,105
York,	12	9,849	2,201	6,785
Total,	491	$4,910,883	$798,253	$2,696,045

CLASS OF STRUCTURES DESTROYED OR DAMAGED BY FIRE, DECEMBER, 1918.

(Exclusive of Philadelphia and Pittsburgh)

Structures.	Number of fires.
Apartment houses, boarding houses, dwellings,	222
Automobiles,	8
Bank and office buildings,	5
Barns and stables (city and town),	12
Chapels and churches,	5
Club, lodge and society rooms,	4
Cottages, club houses and season homes,	2
Derricks,	1
Electric Railway Property:	
Power houses,	1
Farm crops in field,	3
Farm Property:	
Barns and stables,	34
Dwellings,	48
Outbuildings,	11
Garages—private,	5
Garages—Public,	3
Green houses and hothouses (commercial),	1
Hotels,	8
Jails, prisons and reform schools,	1
Junk shops and yards,	3

CLASS OF STRUCTURES DESTROYED OR DAMAGED BY FIRE, DECEMBER, 1918—Continued.

Structures.	Number of fires.
Manufactured and Industrial establishments:	
Acids and chemicals,	1
Bakeries,	3
Bottling works,	1
Breweries,	1
Cobblers,	2
Food products—variety,	1
Glass,	1
Iron and steel, blast furnaces, foundries, rolling mills,	2
Laundries,	1
Lime kilns,	1
Metal—insicellaneous,	1
Miscellaneous,	4
Novelties,	1
Paper and pulp,	1
Printing establishments,	2
Ruber goods,	1
Saw mills,	1
Water works,	1
Mercantile Establishments:	
Barber shops,	2
Confectionary and ice cream,	2
Department and general stores,	1
Drugs and medicines,	1
Electrical and gas fixtures and supplies,	1
Groceries,	10
Hardware,	2
Men's furnishings,	1
Miscellaneous with dwelling occupancy,	36
Restaurants,	1
Miscellaneous,	6
Outbuildings (city and town),	7
Railroad (Steam) Property:	
Bridges,	1
Freight depots,	1
Freight rolling equipment,	2
Passenger stations,	1
Road houses, saloons and taverns,	1
Schools—public,	5
Theatres and motion picture houses,	4
Warehouses and Storage:	
General storage,	2
Totals,	491

MATERIALS USED IN CONSTRUCTION OF BUILDINGS DESTROYED OR DAMAGED BY FIRE, DECEMBER, 1918.

(Exclusive of Philadelphia and Pittsburgh)

Material.	Number of fires	Loss.
Brick,	122	$211,511
Brick and stone,	1	30
Concrete,	4	6,505
Stone,	10	15,377
Wood or frame,	319	463,944
Wood with brick or stone,	15	94,397
Unclassified,	13	2,123
Iron covered (galvanized),	1	4,000
Not reported,	6	366
Totals,	491	$798,253

CAUSE OF FIRE AND LOSS INCURRED, DECEMBER, 1918.

(Exclusive of Philadelphia and Pittsburgh)

Cause.	Number of fires.	Loss.
Adjoining fires,	23	$26,690
Ashes (Hot)—careless disposal,	3	828
Backfire,	4	990
Candle carelessness,	9	1,602
Chimney, flues, stacks—defective and overheated,	57	35,070
Christmas tree decorations,	4	235
Cigars and cigarettes (lighted),—carelessly discarded,	8	6,334
Clothing and curtains exposed to contact with stove, heating appliances, and unprotected lights,	12	4,764
Coals (hot)—falling from stove or furnace,	4	477
Electric, flat and gas iron carelessness,	2	114
Electric wiring—defective,	14	46,943
Explosions:		
Alcohol, gas and oil lamps,	3	118
Alcohol, gas and oil stoves and heaters,	18	3,930
Chemicals and acids,	1	100
Coal oil and kerosene—starting fires and filling lamps and lanterns,	3	3,660
Gas leak,	8	9,744

CAUSE OF FIRE AND LOSS INCURRED—Continued.

Cause.	Number of fires.	Loss.
Gasoline, Benzine, Naphtha—careless use and cleaning with exposed to fire or unprotected lights,	5	13,668
Gasoline—pipe or storage leak,	1	305
Oils (inflammable)—ignition,	3	29,010
Fireplace—defective or overheated,	4	698
Flat irons and bricks (heated)—used for warming purpose in bed,	1	20
Furnaces, heaters, stoves, and their pipes—defective or overheated,	31	42,113
Fumigation,	1	22
Incendiary,	11	15,115
Lamps and lanterns—overturned,	4	22,177
Lightning—(no report as to rods),	2	160
Matches—careless use and keeping,	30	4,901
Matches—children,	20	4,298
Matches—(lighted)—carelessly discarded,	3	133
Metals (hot), asphalt, tar, pitch, etc.—ignition of,	4	5,588
Miscellaneous,	5	1,408
Motion picture apparatus and films,	1	300
Ovens (bakery)—defective or overheated,	2	65
Smoking—carelessness,	3	105
Smoking in bed,	4	389
Smoking meats,	3	261
Sparks,	4	775
Chimneys, flues, stacks, cupola (exposure—adjoining fires),	23	5,669
Fireplace,	3	492
Locomotive,	6	8,675
Rubish and brush burning,	4	169
Spontaneous combustion,	2	7,510
Tramps,	1	1,625
Undetermined,	130	470,154
Woodwork and furniture exposed to contact with stove, heating appliances and unprotected lights,	7	20,840
Totals,	491	$798,253

NUMBER OF INSPECTIONS MADE AND ORDERS ISSUED FOR REMOVAL OR REMEDYING OF FIRE HAZARDS

(During the Month of March, 1919).

Buildings Inspected.	Number of inspections.	Removal of or general repairs to dilapidated buildings.	Removal of rubbish and waste accumulation and regulating proper disposal thereof.	Regulating proper storage of explosives (petroleum products, chemicals, powder).	Repair chimney or stovepipe connections.	Repair defective wiring.	Change or repair heating arrangement.	Change or repair lighting arrangement.	Install fire extinguishers, sand or water buckets	Place metal or asbestos protection around heat appliances or installation of other fire retardents.	Total number of orders.	Orders not necessary.
Apartment houses, boarding houses, dwellings,	14	12	5	1	----	----	----	----	----	------	18	----
Barns and stables (city and town),	37	37	16	------	----	----	----	----	----	------	53	----
Garages—private,	1	1	1	------	----	----	----	----	----	------	2	----
Garages—public,	8	1	------	------	----	----	1	----	----	------	2	6
Hotels,	4	1	1	------	----	----	----	----	----	------	2	2
Manufacturing and Industrial Establishments:												
Abbatoirs and slaughter houses,	1	1	------	------	----	----	----	----	----	------	1	----
Agricultural implements,	1	----	------	------	----	----	----	----	----	------	----	1
Asbestos,	1	----	------	------	----	----	----	----	----	------	----	1
Bakeries,	6	----	------	------	----	----	----	----	----	------	----	6
Blacksmith shops,	1	1	------	------	----	----	----	----	----	------	1	----
Bottlingworks,	1	1	------	1	----	----	----	----	----	1	3	----
Carriages and wagons,	1	----	------	------	----	----	----	----	----	------	----	1
Cobblers,	6	----	------	------	----	----	----	1	----	------	1	5
Crockery, earthen-ware, pottery,	1	----	------	------	----	----	----	----	----	------	----	1
Feed and flour,	5	----	------	------	----	----	----	----	1	------	1	4
Laundries,	9	1	1	------	----	----	----	----	----	------	2	8
Leather goods and saddlery,	1	----	------	------	----	----	----	----	----	------	----	1
Machine and repair shops—variety,	1	----	------	------	----	----	----	----	----	------	----	1
Mattress and upholstery,	1	----	------	------	----	----	----	----	----	------	----	1
Plumbing and tinning,	3	2	2	------	----	----	----	----	----	------	4	1
Silk and lace,	2	----	------	------	----	----	----	----	----	------	----	2
Textiles,	2	----	------	------	----	----	----	----	----	------	----	2
Mercantile Establishments:												
Athletic and sporting goods,	2	----	------	------	----	----	----	----	----	------	----	2
Barber shops,	6	----	------	------	----	----	----	----	----	------	----	6
Boots and shoes,	9	----	1	------	----	----	----	----	----	------	1	8
Confectioary and ice cream,	9	----	------	------	----	----	----	----	----	------	----	9
Department and general stores,	13	----	2	------	----	----	----	----	----	------	2	11
Drugs and medicines,	14	----	1	------	----	----	----	----	----	------	1	13
Florists,	2	----	------	------	----	----	----	----	----	------	----	2
Flour, feed and way,	1	----	------	------	----	----	----	----	----	------	----	1
General stores (rural),	16	----	3	------	----	----	----	----	----	------	3	13
Groceries,	43	----	8	1	1	1	2	1	----	1	15	32
Hardware,	9	----	------	------	----	----	----	----	----	------	----	9
Hats and caps,	1	----	------	------	----	----	----	----	----	------	----	1
House furnishings,	3	----	------	------	----	----	----	----	----	------	----	3
Jewelry,	4	----	------	------	----	----	----	----	----	------	----	4
Ladies' furnishings,	1	----	------	------	----	----	----	----	----	------	----	1
Leather goods and harness,	1	----	------	------	----	----	----	----	----	------	----	1
Liquors and wines,	3	1	2	------	----	----	----	----	----	------	3	1
Meats,	8	----	2	------	1	----	----	----	----	------	3	5
Men's furnishings,	13	----	1	------	----	----	----	----	----	------	1	12

NUMBER OF INSPECTIONS AND ORDERS—Continued.

	Number of inspections.	Removal of or general repairs to dilapidated buildings.	Removal of rubbish and waste accumulation and regulating proper disposal thereof.	Regulating proper storage of explosives (petroleum products, chemicals, powder).	Repair chimney or stovepipe connections.	Repair defective wiring.	Change or repair heating arrangement.	Change or repair lighting arrangement.	Install fire extinguishers, sand or water buckets	Place metal or asbestos protection around heat appliances or installation of other fire retardents.	Total number of orders.	Orders not necessary.
Millinery,	2	----	------	------	----	----	----	----	----	------	----	2
Miscelaneous with dwelling occupancy,	28	5	13	7	2	5	7	1	----	2	42	4
Notions and novelties,	1	----	------	------	----	----	----	----	----	------	----	1
Restaurants,	7	----	1	------	----	----	----	----	----	------	1	6
Stationery and wall paper,	2	----	------	------	----	----	----	----	----	------	----	2
Tailoring,	7	----	------	------	----	----	----	----	----	------	----	7
Tobacco and cigars,	14	----	------	------	----	----	----	----	----	------	----	14
Wholesale groceries and fruits,	5	----	------	------	----	----	----	----	----	------	----	5
Miscellaneous,	8	2	5	------	----	----	----	----	----	------	7	3
Miscellaneous,	3	1	2	------	----	----	----	----	----	------	3	----
Outbuildings (city and town),	23	23	11	------	----	----	----	----	----	------	34	----
Schools—public,	2	----	1	------	----	----	----	----	1	------	2	1
Theatres and notion picture houses,	2	----	1	------	----	1	1	----	----	------	3	1
Warehouses and Storage:												
General storage,	11	5	3	------	----	1	1	----	2	------	12	3
Totals,	380	95	83	9	5	8	12	3	4	4	223	226

PROCRASTINATION.

Procrastination is universal and unfortunately it leads to disaster that could easily be avoided. Take the man who has decided to install fire protection or clean up his premises in the interest of fire prevention, he will then dally along for days and weeks or perhaps months "putting off until tomorrow what should be done today," and if charged with his neglect will probably answer, "We never had a fire, what's the hurry?" Why should we expect one, and in nine cases out of ten, the unexpected happens, and when least prepared, the fire occurs, and the loss in the case of a manufacturer or business man may mean absolute ruin, regardless of the insurance carried and to the housekeeper the destruction beyond replacing of many articles that are prized more from association than real value. The habit of Procrastination has caused many an honest intending man to be viewed by his neighbors as a shiftless, unthinking, and undesirable citizen, simply because of failure to either take the iniative or follow advice in protecting his property against fire by preventive measures, or, if he be of some prominence in setting the example and urging others to follow in the conservation of life, property and resources in the home community.

It must be recognized that in these days of high cost of living and taxes upon taxes imposed for the payment of the cost of the war, that the conservation of resources must be practiced and in what way can it be more effectively done than in preservation of taxable property by the prevention of fire. Knowing that by so doing it removes the burden that others have to assume in the event of the destruction by fire of taxable property, for every loss by fire of a home, manufactory or mercantile establishments of any kind reduces the community's income from taxes to the extent of the taxable valuation of the property destroyed, and this amount must be made up by the imposition of an extra tax on other property by increasing the assessed value sufficiently to return the income required to pay the necessary expenses of the city, borough or township. Expenses never decrease, but increase annually owing to progression which means improvements and betterment. These improvements and betterments should be encouraged as they mean better living, comforts and facilities. They, of course, naturally have their attendant costs, and this cost

must be borne by the tax payers. In order to distribute this expense equally among those owning property from whom the income to pay municipal expenses must be obtained, it becomes the imperative duty of every citizen to insist on preventing the destruction of taxable property through Procrastination, carelessness, or the neglect of other citizens. This is but fair and civic pride, which means love of home, should dictate to every citizen to be up and doing his utmost to prevent fires caused by permitting unnecessary accumulation of waste and rubbish, which is not only useless, unsightly, but dangerous and responsible for the majority of fires that occur. Fire Prevention and cleanliness are one, and should receive equal attention. Keep premises clean, make frequent inspections to see that no fire breeding menace exists, form among the neighbors a fire prevention association, interest the school children in fire prevention and persuade the firemen, if volunteers, and if a paid Department by ordinance of council, introduce the custom of frequent inspections of every property in the community and insist that the removal and destruction of all fire hazards be made at frequent intervals. The remedying of conditions apt to cause fire will result in a decided reduction in the fire loss and a consequent saving of valuable property.

Full paid taxes on all property, equalized contribution to expenses, the knowledge of living in a clean community and freedom from the uncertainty that follows, disregard of the welfare of others, by the prevention of fire and the avoidance of Procrastination which is responsible for most of the troubles of this life, the conservation of life, property and resources in a community, will be a valuable contribution to efforts made for civic improvements and betterment of conditions.

PROTECTION AGAINST LIGHTNING.

In this progressive age it is surprising the indifference shown by the farmers of the country, as well as other property owners, to the destructiveness of unharnessed lightning. It being estimated that not more than fifteen or twenty per cent. of the buildings in the United States, which are liable to damage or destruction by lightning, are protected in any manner against it. This indifference may

be traced to several causes, not the least of which is the impression left by swindling lightning rod agents of years ago who prospered greatly at the expense of the credulous public. Hundreds of people were swindled and found themselves in possession of what has been a very useful device, if properly installed, but was of no use for the purpose designed. Numerous other causes are to a great degree responsible for the aversion that seems to exist against lightning rod agents, and as to the benefits to be obtained by properly installed lightning rods in saving property from damage or destruction.

In Europe the lightning rod was not brought into discredit during the early part of its history to the extent it was in the United States, and, as a consequence, the European public seems to regard it in a more favorable light, than does the public in this country and the result is that official attention is given in all European countries to the protection of all public buildings regardless of their importance. School authorities, particularly, insist upon having lightning rods on all school houses and in many cities annual appropriations are made for the specific purpose of keeping lightning rods on buildings in repair. Whereas the tendency of our own Government principally directed attention to important structures, as the White House, Capitol and others in extremely exposed situations such as lighthouses and smokestacks of government works, and also on the Washington Monument which has been saved a number of times from damage or destruction by the lightning rods placed thereon. At the beginning and during the war the necessity for conservation of resources dictated that every precaution be taken against loss from fire and particularly to the great loss caused by lightning; failure of owners of property, especially the farmers, to accept the known protection from loss afforded by properly placed lightning rods was apparent and urgent appeals were made to include the protection on all buildings where munitions were made or stored.

The United States Bureau of Standards made an exhaustive study of the subject of the affectiveness of lightning rods and its recommendations and the example set by the Government in equipping the buildings at contonments, camps, magazines and other governmental structures should be followed in the interest of conservation.

Based on statistics it is estimated that barns, when struck by lightning owing to the inflammability of contents, are four times more liable to burn than houses, thus showing conclusively that all barns

should be rodded as a protective measure and to conserve the contents which often represent the result of an entire season's hard labor, the loss of which may mean absolute ruination to the owner, who, although perfectly aware of the protection available, has for some reason put off until too late, taking advantage of this recognized means of protection.

During 1918 there were 2,144 losses by lightning reported to the State Fire Marshal. Of these 17 were listed as being rodded, entailing a loss of $40,155; not rodded—loss—$463,424; and 1882 with no information as to rodding—loss—$567,138, a total loss of $1,070,717. It was not possible to ascertain the conditions or age of rods of the 17 rodded buildings destroyed, but based on general experience it is presumed that the rods were either old, defective, or improperly installed.

The property loss by lightning for the entire country is approximately $8,000,000 per year of which by far the greater part occurs in rural districts.

During each year there are approximately 1,500 affected by lightning strokes in the United States, about one-third being killed and the rest subjected to injuries, which in many cases are permanent. Nine-tenths of these accidents occur in rural districts. The evidence to the effectiveness of lightning rods indicates that they reduce the fire hazards from lightning by 80 to 90 per cent. in the case of houses, and by as much as 99 per cent. in the case of barns and this would probably be true in the case of other buildings having similar characteristics of houses and barns. Where there has been failure of rods to afford the protection expected it has generally been found that there are some defects either in material or installation. In some cases it has been found that the failure of lightning rods to give adequate protection is due to neglect to make extended metallic masses in proximity to the rods, a part of the lightning rod system.

The evidence in favor of the protective value of lightning rods is so overwhelming that it almost seems criminal neglect in not taking advantage of this means of protection and there should be no hesitation in the installation of rods for the protecting of buildings from loss by lightning. Every property owner, and particularly the farmer, in the interest of the prevention of fires and the conservation of resouces, should at once arrange for the installation of rods on all buildings, and help save the $8 000,000 annually unnecessarily wasted.

AN OBJECT WORTHY OF CONSIDERATION.

Chambers of Commerce, Boards of Trade, and other civic bodies, organized for the advancement and improvement of conditions in communities, are deserving of and should be accorded every encouragement, as the general intention is the stimulation of progressiveness, which should be given the support of business men and the public in general. The success of these associations is dependent upon united interest and the activity of members and the avoidance of anything that has the appearance or gives the impression that the association is conducted principally for the advancement, either financially or socially of a few of its members. Fortunately, associations of this character are but short-lived, as they soon become recognized as a drawback and hindrance to any community. When founded upon stability and its object pushed with vigor and integrity, much good will result and the public who is the beneficiary will faithfully and without stint uphold the association in its undertakings.

Associations conducted under such conditions become a power for good in a community, and must be alive to the necessities and requirements of their respective localities. One of the first objects that should invite attention is that of saving life and property through Fire Prevention, and this should be the slogan, as it means added wealth instead of loss, better construction of buildings, bettering conditions by the removal of fire breeding material, better and up-to-date motorized fire apparatus, and should above all, include inspection of buildings by members of the Fire Department, who, to properly fight fire should be familiar with conditions as they constantly risk their lives when attending a fire and by knowing construction and existing conditions more efficient service can be rendered with less danger and greater saving of property. Work of this character should be in the hands of a special committee whose sole energy should be devoted toward the prevention of fires. Nothing can be so far reaching in its benefits to the general public than better buildings, adequate water supply. adequate apparatus with well drilled men, better paved streets and pavements and the elimination of all rubbish, trash, waste paper and other inflammables. It means a clean community and one in which the insurance rates will be reduced to the financial advantage of all citizens.

Much can be done by members individually in introducing a Clean-Up Campaign in the immediate vicinity of their residence or business place and much good will result. Organize the teachers and scholars in the schools and teach them the benefit of Fire Prevention and the beauty and satisfaction of lving in a clean community. Now is the time to commence this work as the season for Spring House Cleaning will soon arrive. During the winter much useless material may have accumulated and been stored away in closets, cellars, attics or other out of the way places just to get it out of sight until the Spring Clean-Up. This should not be; it is a dangerous practice. There should be no packing away of useless articles or other material of inflammable nature. All such should be immediately removed and destroyed. If this is done it will make housecleaning much easier and lessen the cause of many fires. Use care in getting rid of rubbish. If burned, do not do so on a windy day; nor should it be piled near a building. Be sure not to leave a smouldering fire. A few sparks from a rubbish fire may fall on a roof and cause a destructive fire. Won't you adopt the plan of having a Clean-Up Day every day and help reduce the fire waste, which is of such enormous cost, not only to you, but to all your neighbors? Help in the good work.

CLEAN-UP WEEK

FIRE PREVENTION CAMPAIGN.

The enterprising up-to-date cities and boroughs throughout the State recognize by past experience the beneficial results obtained by regularly designating a certain period for a general cleaning up of all premises and the removal of all fire breeding menaces in the interest of preventing fire.

A number of the live-wire localities have already carried out this plan, setting an example for others to follow, and there is no reason why every city and borough in the State should not at once do so, as security against loss caused by carelessness.

Carelessness is the principal cause for the largest part of the fire waste in this country and as a consequence the cost of insurance is increasing, which means additional taxes and higher cost of living.

Let every city and borough that has not already observed, or if preparing to have a CLEAN-UP WEEK do so from May 12th to May 19th, during which time there should be a thorough cleaning up and removal of all rubbish and inflammable material from in and about premises, inspect chimneys and heating apparatus and remedy defects.

Theatres, private and public institutions, factories, mills and other property should be inspected, and necessary changes made that will prevent fire and insure the lives and safety of occupants.

Local Authorities should insist upon better building regulations as a fire preventive measure. Advocate fire drills in all schools, public and private institutions and factories.

By the co-operation of citizens in efforts for prevention of fires, the fire waste in the State can be materially reduced and resources conserved.

HOW TO PREVENT FIRES.

Make it a duty to inspect your premises regularly. Remove and destroy useless material that might cause fire.

Ask your neighbor to help you reduce insurance rates by improving conditions and the prevention of fires.

Keep constantly in view the possibility of fire and use precautions to avoid one.

Earnestly labor for improved building regulations and the use of fire resistive material in the erection of new buildings.

Put no trust in the fact that you never suffered a loss by fire as a reason for being unprepared.

Expend a few dollars for extinguishers and place them handy for instant use.

Never discourage a neighbor who is wise enough to protect his property; go and do likewise.

Now is the opportune time to encourage carefulness in the handling of inflammable liquids—they are not fool proof.

Stop fire losses—they add to the high cost of living.

You are responsible for damage to a neighbor's property if by your carelessness it is destroyed by fire.

Look after defective chimneys, flues, heaters, stoves and stovepipes; have defects remedied; they are the cause of disastrous fires.

Very many persons do not recognize the danger of carelessly handling gasoline. It is dangerous and should be used with caution to avoid accident or possibly death.

Always provide metal receptacles for oily rags and waste. Spontaneous combustion may result by failure to do so.

Never permit children to play with matches—many a little tot has lost its life through neglect of parents to caution against this dangerous practice.

Insist on the inspection of every property in your community and the remedying of conditions in the interest of Fire Prevention; let this be done by either local or state officials, and see to it that it is thoroughly done.

Assist in this work by calling together the neighbors and forming a fire prevention association.

Fires come when least expected.

Is not the saving of your home worth an effort to get busy and protect it by cleaning up and keeping it clean, free from rubbish and trash?

Extinguish matches before throwing them away. Use none but safety matches.

People are great when they unite in a common cause—nothing is more beneficial or profitable than the prevention of fire losses.

Rubbish heaps are fire breeders. Fires start in them and are fed by them.

A clean city will have few fires.

Oil stoves and lamps should be trimmed only in daylight and out of doors if possible.

Owners of property should use all reasonable effort to preserve their property in the event of fire—better, however, to expend effort in the prevention of fire.

Frequent clean-ups prevent fires, add to the beauty of the home and surroundings, enhance the value of property, create comfort, happiness and will make Pennsylvania fireproof.

MONTHLY BULLETIN

"MAKE PENNSYLVANIA FIREPROOF"

Department

OF THE

State Fire Marshal

OF

Pennsylvania

OFFICE—ROOM 166
Capitol Building, Harrisburg, Pa.
HOWARD E. BUTZ, State Fire Marshal

VOL. VI JUNE, 1919 No. 39

FARM BUILDING ROOFS.

A special bulletin on fire prevention and fire fighting on the farm, issued in January of this year, by the United States Department of Agriculture, states that "from a fire protection standpoint it is unfortunate that nearly all farm buildings are covered by shingle roofs. A dry shingle roof is one of the most inflammable things imaginable, but on account of their durability, light weight and low cost, shingles will probably continue to be used indefinitely for roofing farm buildings. However, when a new building is being constructed or a new roof is being put on an old one, it is at least worth while to consider the use of fireproof roofing. With the growing scarcity and high price of lumber, fireproof substitutes for shingles are becoming more numerous and available. When shingles are exposed to the weather for a short time they take on a rough, fuzzy appearance, due to the fibers on the surface being loosened. The sun from without and the heat from within the building combine to extract every trace of moisture from them. If the cinder or spark happens to strike the roof, the roughened surface tends to hold it there, and it is likely to set the roof on fire before it goes out."

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Monthly Bulletin

Department

OF THE

State Fire Marshal

OF

Pennsylvania

HOWARD E. BUTZ, State Fire Marshal

BULLETIN OF INFORMATION FOR THE PUBLIC

JUNE, 1919

HARRISBURG, PENNA.:
1919

1919 FOURTH OF JULY.

Safety is of the Highest Consideration; Noise is Secondary. Help in the Celebration of a Sane and Safe Fourth of July.

In commemoration of the gigantic struggle engaged in by our forefathers, for liberty and freedom from tyranny, Americans have regularly celebrated the Fourth Day of July as the particular occasion for Patriotic rejoicing by the firing of guns, use of firecrackers and pyrotechnic displays. At no time in the history of the country is there more real cause for rejoicing than at the present time, when the hearts of all Americans are inspired by the glorious and self-sacrificing efforts of those courageous lads, who but a few months from civil life outfought and out-maneuvered the proudest divisions of the German army, buffeted them back from a desperate offensive into disorderly retreat and earned for themselves the highest commendations and decorations in the gift of Europe's foremost military leaders, and accredited by the enemy as having won the war for the allies.

Many who went forth will never return to their dear ones. Many others are maimed for life, and the others return to their homes and families glorified by all the gratitude and heartfelt welcome a grateful nation can bestow. They will again, as of old, help to celebrate the Fourth of July made doubly sacred by the hardships they endured and it is in recognition of the great sacrifice of life already unfortunately inflicted upon the citizens of the State and endured by them with the true patriotism of the American that the avoidance of further casualties by the endeavor to lessen the usual fatalities and destruction that have been so appalling in previous years on the Fourth of July is urgently advisable.

Municipal authorities and all citizens are urgently requested to observe this day in a safe and sane manner, as an important conservation measure, and the elimination of the possibility of evilly disposed persons taking advantage of the occasion to further the committing of overt acts.

The indiscriminant sale and use of fireworks should be discouraged. If displays are made they should be under some responsible organization.

Many sad memories remain through the participation of thousands in a noisy, dangerous celebration of the Fourth. Let's have less noise, fewer accidents, and a minimum of fires. You can be a contributing factor in bringing about these results by insisting on a sane celebration on the Glorious Fourth. Won't you do it, and help avoid a repetition of the casualties that has disgraced former years? In 1918 there was about $245,000 worth of property destroyed in Pennsylvania on the Fourth of July through the use of fireworks. A few persons were killed, hundreds were maimed temporarily and for life. What are you going to do about it this year? Let us have a sane fourth. Now that the war is over, let our orators speak of our great achievements in it, let us instill patriotism, inveigh against the hellish designs of bad men who are tinctured with anarchism, and cut out fireworks. Work for a sane and glorious patriotic, free from noise Fourth.

The movement for a safe and sane Fourth of July, free from the too frequent calamities, is one of conservation. Conservation of life, limb and property and freedom from distracting noises produced by the firing of guns, pistols, firecrackers and other equally dangerous catch penny affairs that are subject to purchase by small children, and careless adults who use no judgment in their handling, or care less about effect, so that there is noise, noise and more noise, and often resulting in eyes being blown out, arms torn off, lives lost, and property destroyed by careless handling of fireworks on this glorious day. Noise is not patriotism. Let us go back to the old days when Fourth of July was sanely celebrated by the unfurling of the Stars and Stripes, salute of guns, ringing of church bells and patriotic songs and speeches. The firecracker is a national nuisance and its use should be avoided in the interest of safety. Avoid calamities by a safe and sane celebration on the coming Independence Day. Will you not be a contributing factor to that end? Think it over and act accordingly and help uphold those in authority who are endeavoring by their action to guard you and yours against possible calamities.

The efforts made for the celebration of the Fourth of July (1919) in a safe and sane manner by addressing the mayors and burgesses of the State, requesting their co-operation, has met with unexpected and gratifying responses, and in many instances ordinances have been enacted by councils prohibiting sale or use of fireworks, and in

others, proclamations have been issued to the same end, the consensus of opinion expressed by the various mayors and burgesses being that prohibition of sale and use, or restriction of use of fireworks will result in the saving of life and property and the adoption of other means to celebrate the day will add materially and beneficially in a true knowledge of patriotism and what it means in fostering love of country as Americans.

The late Theodore Roosevelt rightly said, "Unless the country is made a good place for all of us to live in, it won't be a good place for any of us to live in." Let's make it that good country by doing away with the cause of much suffering and sorrow in the past, the noisy fireworks and instill patriotism in the hearts of all the people on the Fourth of July.

For more than four years the whole civilized world witnessed a seething mass of fireworks. Haven't we had enough of them? Let us cut them out on the coming Fourth of July. Celebrate Safely and Sanely!

GOOD HOUSEKEEPING.

The regular observance weekly, monthly or yearly by individuals of removing and destroying fire breeding rubbish and refuse from homes and premises is an example of good housekeeping, and will have a beneficial influence upon those who are disposed to disregard their obligations to the community. Unkempt premises are a menace and react upon the people, and neglect of ordinary precaution is bound to influence a community adversely. A community rises in the scale of civilization as a man rises by thoughts, by efforts, by carefulness, by good habits and the elimination of bad habits, and what brings success and contentment to an individual brings also success to a community. There are communities and many of them, that are overgrown, dirty, dissolute and miserly; communities that are clean, rich and progressive. Under which title do you prefer your community to be known? The choice is yours and it's almost certain that your preference would be for a clean and progressive place to live in, but should it not be, there is no reason

why it cannot be made so, for regardless of past conditions you and your neighbors should get together and correct conditions by practicing cleanliness, industry, carefulness, the education of the children, progressiveness, and by unselfishly assisting in teaching others to understand the benefits to be derived by clean living.

Cleanliness in a community comes first and it is fitting that it should be, for surely no one wants to do business in a dirty community nor more than to live with a dirty individual, or in a foul, smelling cluttered home which means loss of self respect. What is true of a home is equally true of a community, and the very best advertisment that any place can have is that it is clean and well governed, free from all that is disagreeable or a menace to life and property.

The cost of making and keeping a community clean is comparatively small in so far as the expenditure of money is concerned, but it requires physical exertion and strict adherence to the rules of cleanliness and safety and instead of setting aside a special day in the year for that purpose EVERY DAY SHOULD BE A CLEAN-UP DAY. The work, like all other work, is hard at the beginning, but when the results of the efforts put forth become apparent that there is a determination to enter the ranks as one of the best kept communities in the State, civic pride will not permit going backward, but rather that pride will be so strong that it will have the effect of redoubled efforts directed for even better conditions than at first planned, including better constructed buildings, better and more paved streets, better sewerage, and in fact, everything that can be done to bring the community to that perfection that the true spirit of civic pride dictates.

The campaign for betterment must be pushed vigorously and systematically. It must have a head who will be willing to direct the work throughout the entire year and must have an organization in every district and in every home, as well and there must be co-operation between the citizens, for without co-operation it will not succeed.

The Fire Marshal Department is directing all its efforts to reduce the great and unnecessary fire waste that is a disgrace to the State, and investigation into the causes for this waste discloses the fact that sixty-five per cent. of all fires that occur are from carelessness, and

that this carelessness comes from failure to remove and destroy trash, rubbish, dilapidated buildings and other accumulations that are permitted to remain in and about premises as an invitation to fire and which is a constant menace. We welcome and urge these CLEAN-UP DAYS OR WEEKS and are ready to lend assistance, recognizing that it means the awakening of civic pride which must exist if communities expect to take their place among those who by activity for clean, healthy, industrial centers are looked upon as examples for other communities to follow. Individuals are vitally interested in this movement whether owners of property or merely tenants or lodgers, and must bear the burden of loss and inconvenience. As fire losses increase, so do insurance premiums; the cost of which comes out of the pocket of every individual, being added to the cost of every commodity used.

Recognizing this, twenty-six States have adopted annual CLEAN-UP DAYS, and in this State nearly every live town is getting busy and doing the same, it means so much that is beneficial beside a clean, healthy town. The probability of fires is reduced to a very great exten, as is the work of the fire department which means so much, particularly in volunteer service where the members have others depending on them, and should they be so unfortunate as to be injured or killed, a risk constantly before the members, that can be avoided to a great extent by prevention of fires.

Now is the time to get busy, as the time is at hand when in accordance with immemorial custom, housecleaning will be in order and it is presumed that nobody whose house needs it will neglect cleaning up, and that it will be made a really thorough one. Still more it is hoped that after the house and its surroundings have been put in order, pains will be taken to keep them in good order the year round. Special efforts should be made by manufacturers and business men to remove all fire hazards, such as rubbish, oily rags, loose straw, excelsior, waste paper, burlap, and destroy the same and see that such accumulations are not hereafter permitted.

Make every day a Fire Prevention Day by adhering strictly to cleanliness and carefulness in and about homes and premises. Do this for your own benefit as well as in the interest of conserving lives and property in the community in which you live, and the saving wealth that is now wasted beyond the possibility of return, through loss by fire caused mainly through thoughtlessness and carelessness.

LET EVERY DAY BE FREE FROM CARELESSNESS.

Two-thirds of the fire waste of the country is caused by carelessness, neglect and indifference. This can and should be overcome by good order, cleanliness and attention to conditons. This is the first step toward effective reduction of first waste. Heavy losses increase cost of insurance. An inspection of your premises daily, and remedying conditions will assist in obtaining lower insurance rates.

All persons should be interested and aid in a reduction of fires, as it means saving of life, property and dollars.

MR. FARMER: Have you given thought to protecting your buildings against fire, or have you taken precaution to preventing fire from destroying your buildings? Do so. Clean up. Use the same precaution to prevent a fire as you would if you expected one.

DON'T go to barns or other buildings with an open light.

DON'T keep gasoline engines, or gasoline in barns, put them in separate buildings made of galvanized iron, brick or stone.

DON'T fail to burn rubbish. Don't do it near buildings. Watch it while burning.

KEEP at least six (6) buckets of water in passageway of barn. Mark them "For fire purposes only," and see that they are kept filled.

KEEP ladder of sufficient length on side of barn for emergencies, and have foot holds placed on roof of barn.

BUILD a cistern near barn with a good pump and hose attached.

DON'T neglect to put lightning rods on your building; they prevent fire.

Assist in the prevention of fires and loss of life.

MR. MANUFACTURER AND MILL OWNER: It is your duty to safeguard your property against loss by fire, and particularly, it is necessary at this time when resources must be conserved. This applies to all productions, especially that of food, and every safeguard should be applied to prevent fire destroying that which is, and will be greatly needed to supply the requirements of our people.

INSPECT your premises. Correct all defects, take the utmost precaution and make preparation to protect your property by the prevention of fires.

MR. MERCHANT: Do you know that you are, in part, responsible for the higher rates of insurance premiums? They are based on construction of buildings; occupancy; lighting; area; police system; fire department; watchmen; payments; width and condition of streets and general condition of surroundings. Clean up your premises, and keep clean. Remove all waste and destroy it under proper supervision. No one can honestly foretell a loss by fire. It comes when least expected and when least prepared.

DON'T be in the unprepared class. Make Fire Prevention a part of your business. It will pay a good profit and save loss of trade, which becomes scattered as the inevitable result of fire loss.

MR. EMPLOYEE: A fire in the establishment where you work may mean its destruction and cause you and others to lose their positions and income derived therefrom. You certainly don't want such a calamity to happen and should interest yourselves in seeing that it does not, by means of prevention.

DON'T permit waste or other fire breeding material to accumulate in or about where you are working. Talk to your fellow-workers, point out the danger and loss from fire and induce them to use care and precaution to prevent fire. Don't do this for a limited period only, but be constantly on the watch for any defects or conditions that might cause fire and see that they are removed.

Form a Fire Prevention Committee and assign certain ones to see that every day is a Fire Prevention Day, and that no accumulations are permitted that would cause fire, throw you out of work and which may cause distress to your family and possibly death to fellow-workers.

HOUSEKEEPERS should stop a while from pleasure and clean up their homes and aid in the prevention of fires.

STOP piling rubbish, trash or waste in cellars, backyards or streets.

STOP using other than safety matches.

STOP putting ashes in wooden boxes; use metal cans.

STOP filling oil or gasoline stoves or lamps when lighted.

STOP hanging clothing or draperies near open fires or stoves, stovepipes or steampipes.

STOP starting fires in furnaces or stoves without seeing that they are properly put up, and see that chimneys and flues are clean.

AID us in the prevention of fires and loss of life.

Of all the 365 days in the year when our lives and properties are subjected to their greatest risk is the Fourth of July. Cut out the fireworks and be safe!

Like conditions are prevalent throughout the State. Many corrections have been made and many remain to be made by "Clean-Up Campaigns," repairing and repainting, or the demolition of buildings. Won't you do your part in the remedying of conditions and the prevention of fires?

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NUMBER OF FIRES REPORTED, SHOWING VALUE OF PROPERTY, LOSS AND INSURANCE, JANUARY, 1919.

(Exclusive of Philadelphia and Pittsburgh.)

Counties.	Number of Fires.	Estimated Value.	Estimated Loss.	Amount of Insurance.
Adams,	2	$8,460	$8,460	$1,915
Allegheny,	61	285,137	59,704	200,984
Armstrong,	6	9,850	920	5,300
Beaver,	17	119,165	48,719	101,425
Bedford,	4	3,225	444	3,125
Berks,	22	348,800	81,772	202,600
Blair,	42	817,180	45,074	552,250
Bradford,	8	308,000	674	120,100
Bucks,	7	12,027	2,697	8,599
Butler,	9	85,700	26,750	23,200
Cambria,	31	318,412	57,349	119,272
Cameron,	10	18,136	11,786	12,700
Carbon,	2	3,100	1,155	1,400
Centre,	6	45,956	1,403	31,200
Chester,	23	178,435	22,907	80,605
Clarion,	1	11,500	200	7,000
Clearfield,	7	369,100	6,586	3,300
Clinton,	7	119,275	107,060	19,150
Columbia,	2	6,300	1,040	3,600
Crawford,	12	129,465	15,214	48,425
Cumberland,	5	33,000	1,633	19,200
Dauphin,	26	225,436	10,429	151,286
Delaware,	30	198,125	17,081	62,450
Elk,	5	9,844	2,200	8,300
Erie,	50	631,390	129,310	707,675
Fayette,	16	286,780	6,233	49,900
Franklin,	3	176,500	2,150	4,200
Fulton,	2	850	431	850
Greene,	4	11,150	1,584	4,200
Huntingdon,	5	37,500	9,562	18,200
Indiana,	2	8,650	35	3,800
Jefferson,	9	36,100	21,970	15,100
Juniata,	3	3,250	2,229	2,500
Lackawanna,	38	256,300	36,087	137,700
Lancaster,	17	43,500	23,190	32,475
Lawrence,	11	20,950	5,387	14,850
Lebanon,	8	102,450	2,908	46,250
Lehigh,	15	2,831,478	20,388	2,534,950
Luzerne,	37	506,779	42,749	352,500
Lycoming,	13	47,000	5,408	34,200
McKean,	9	416,200	404,028	385,900
Mercer,	16	123,227	13,211	84,100
Mifflin,	4	7,650	3,300	4,000
Monroe,	4	5,900	102	4,400
Montgomery,	11	165,300	78,047	73,200
Montour,	1	2,400	15	800
Northampton,	18	173,780	116,785	128,500
Northumberland,	11	75,000	28,618	28,800
Perry,	1	900	900	----------
Potter,	4	11,309	5,708	7,664
Schuylkill,	30	337,400	44,451	242,475
Snyder,	1	1,500	1,375	375
Sullivan,	4	10,700	3,445	6,700
Susquehanna,	4	5,380	1,415	3,945
Tioga,	7	9,501	4,939	6,100
Venango,	11	153,090	551	110,200
Warren,	6	155,900	1,458	154,900
Washington,	29	106,950	5,868	77,500
Wayne,	2	7,150	1,040	5,000
Westmoreland,	22	935,450	22,182	615,200
Wyoming,	5	13,100	4,922	14,600
York,	16	25,394	1,717	20,460
Total,	794	$11,440,341	$1,584,818	$7,721,555

CLASS OF STRUCTURES DESTROYED OR DAMAGED BY FIRE JANUARY, 1919.

(Exclusive of Philadelphia and Pittsburgh.)

Structures.	Number of Fires.	Loss.
Academies, boarding schools, colleges, universities,	1	$13,576
Apartment houses, boarding houses, dwellings,	418	115,656
Automobiles,	5	509
Bank and office buildings,	3	180
Barns and stables (city and town),	17	5,786
Billiard (pool) halls and bowling alleys,	1	75
Bridges,	1	100,000
Chapels and churches,	9	96,125
Club, lodge and society rooms,	8	10,802
Dance halls and pavilions,	1	22,800
Electric Railway Property:		
Power houses,	1	950
Passenger cars,	1	400
Miscellaneous,	2	15
Farm Property:		
Barns and stables,	21	48,561
Dwellings,	94	95,221
Outbuildings,	5	3,383
Garages, private,	4	3,168
Garages, public,	8	3,972
Hospitals and sanitoriums,	2	100
Hotels,	6	7,784
Jails, prisons, reform schools,	1	6
Livery and sale stables,	4	2,828
Manufacturing and Industrial Establishments:		
Abbatoirs and slaughter houses,	1	3,000
Agricultural implements,	1	5,800
Ammunition, high explosives, and shells,	2	6,734
Automobiles and accessories,	1	37
Bakeries,	4	4,441
Blacksmith shops,	1	1,000
Breweries,	2	5,996
Cement, concrete and stone,	1	22,000
Cigars and cigarettes,	1	3,710
Cleaning and dyeing,	1	10
Clothing (men's), linens, hats, caps, gloves,	1	5
Coal and wood yards,	1	52
Coal mining properties,	2	125
Confectionery,	1	140
Creameries,	1	700
Electrical and gas goods and appliances,	1	989
Electric light and power plants,	2	68
Feed and flour,	3	27,069
Food products, variety,	1	57,000
Furniture,	1	34,000
Glass,	2	401,500
Iron and steel, blast furnaces, foundries, rolling mills,	11	134,212
Machine and repair shops, variety,	2	38,200
Metal, miscellaneous,	8	29,574
Miscellaneous,	1	405
Oil refineries and well works,	5	9,838
Plumbing and tinning,	1	900
Printing establishments,	1	5
Saw mills,	1	1,500
Silk and lace,	1	2,357
Mercantile Establishments:		
Boots and shoes,	1	22
Department and general stores,	3	29,581
General stores (rural),	1	7,000

CLASS OF STRUCTURES DESTROYED OR DAMAGED BY FIRE JANUARY, 1919.

Structures.	Number of Fires.	Loss.
Groceries,	6	15,701
Hardware,	2	15,450
House furnishings,	3	23,931
Meats,	1	70
Men's furnishings,	3	1,392
Millinery,	1	2,844
Miscellaneous, with dwelling occupancy,	56	62,610
Restaurants,	2	475
Tobacco and cigars,	2	115
Wholesale groceries and fruits (and retail),	2	3,603
Miscellaneous,	10	80,608
Outbuildings (city and town),	6	413
Railroad (steam) Property:		
Freight rolling equipment,	1	55
Office buildings,	1	200
Passenger stations,	1	300
Shops,	1	250
Tool houses, towers, water stations,	1	45
Miscellaneous,	1	1,000
Road houses, saloons, and taverns,	1	225
Schools, public,	6	4,723
Theatres and motion picture houses,	4	10,294
Warehouses and Storage:		
General storage,	1	5
Ice,	2	342
Totals,	794	$1,584,818

MATERIALS USED IN CONSTRUCTION OF BUILDINGS DESTROYED OR DAMAGED BY FIRE JANUARY, 1919.

(Exclusive of Philadelphia and Pittsburgh.)

Material.	Number of Fires.	Loss.
Brick,	166	$294,317
Brick and stone,	5	6,126
Concrete,	3	11,032
Stone,	16	42,585
Wood or frame,	562	749,353
Wood with brick or stone,	27	477,628
Unclassified,	10	780
Iron covered (galvanized),	2	1,500
Not reported,	3	1,497
Totals,	794	$1,584,818

CAUSE OF FIRE AND LOSS INCURRED JANUARY, 1919.

(Exclusive of Philadelphia and Pittsburgh.)

Cause.	Number of Fires.	Loss.
Adjoining fires,	60	$103,998
Ashes (hot), careless disposal,	8	206
Backfire,	6	1,553
Candle carelessness,	7	420
Chimney, flues, stacks, defective and overheated,	112	59,754
Christmas decorations,	3	78
Cigars and cigarettes (lighted), carelessly discarded,	10	1,542
Clothing and curtains exposed to contact with stove, heating appliances, and unprotected lights,	19	800
Coals (hot), falling from stove or furnace,	7	131
Cooking appliances (electric, gas, alcohol), carelessly used,	1	875
Electric, flat and gas iron carelessness,	5	391
Electric wiring, defective,	21	51,183
Explosions:		
Alcohol, gas and oil lamps,	14	10,260
Alcohol, gas and oil stoves and heaters,	21	4,494
Coal oil and kerosene, starting fires and filling lamps and lanterns,	3	6,410
Gas leak,	11	5,543
Gasoline, benzine, naphtha, careless use and cleaning with exposed fire or unprotected lights,	6	957
Oils (inflammable), ignition,	10	408,679
Water back,	2	73
Fireplace, defective or overheated,	7	31,863
Flat irons and bricks (heated), used for warming purpose in bed,	1	72
Furnaces, heaters, stoves, and their pipes, defective or overheated,	61	62,778
Fumigation,	1	15
Grease ignition on stove,	1	75
Incendiary,	19	163,784
Lamps and lanterns, overturned,	3	60
Matches, careless use and keeping,	36	37,188
Matches, children,	34	6,310
Metals (hot), asphalt, tar, pitch, etc., ignition of,	2	9,527
Miscellaneous,	16	58,612
Smoking, carelessness,	2	132
Smoking in bed,	3	262
Smoking meats,	1	25
Sparks,	1	10
Chimney, flues, stacks, cupolo (exposure, adjoining fires),	49	7,333
Forge,	1	5
Locomotive,	8	83,315
Running machinery (friction),	1	2,131
Rubbish and brush burning,	3	775
Stationery engines, tractors, etc.,	1	10
Spontaneous Combustion,	2	225
Stove polish applied to hot stove,	1	27
Thawing frozen pipes,	10	3,317
Torch carelessness,	2	410
Undetermined,	189	452,229
Vulcanizing,	1	405
Woodwork and furniture exposed to contact with stove, heating appliances and unprotected lights,	12	6,576
Total,	794	$1,584,818

NUMBER OF INSPECTIONS MADE AND ORDERS ISSUED FOR REMOVAL OR REMEDYING OF FIRE HAZARDS.

(During the Month of March 1919.)

Buildings Inspected.	Number of inspections.	Removal of or general repairs to dilapidated buildings.	Removal of rubbish and waste accumulation and regulating proper disposal thereof.	Regulating proper storage of explosives (petroleum products, chemicals, powder).	Repair chimney or stovepipe connections.	Repair roof.	Repair defective wiring.	Change or repair heating arrangement.	Change or repair lighting arrangement.	Install fire extinguishers, sand or water buckets.	Total number of orders.	Orders not necessary.
Apartment houses, boarding, dwellings,	9	6	3	0	0	3	0	0	0	0	12	0
Barns and stables (city and town),	11	10	5	0	0	1	0	0	0	0	16	0
Billiard (pool) halls and bowling alleys,	2	0	0	0	0	0	0	0	0	0	0	2
Chapels and churches,	1	0	0	0	0	0	0	0	0	0	0	1
Garages, private,	6	0	0	0	0	0	0	0	0	1	1	5
Garages, public,	2	0	0	0	0	0	0	0	0	0	0	2
Hotels,	1	0	0	0	0	0	1	0	0	0	1	0
Manufacturing and Industrial Establishments:												
Bakeries,	8	0	0	0	0	0	0	0	0	0	0	8
Blacksmith shops,	3	3	3	0	0	0	0	0	0	0	6	0
Boots and shoes,	5	0	0	0	0	0	0	0	0	0	0	5
Box,	2	0	1	0	0	0	0	0	0	1	2	1
Carpenter shops,	1	0	0	0	0	0	0	0	0	0	0	1
Cobblers,	1	1	1	0	0	0	0	0	0	0	2	0
Confectionery,	2	0	0	0	0	0	0	0	0	0	0	2
Electric light and power plants,	1	0	0	0	0	0	0	0	0	0	0	1
Feed and flour,	5	0	0	0	0	0	0	0	0	0	0	5
Furniture,	2	0	0	0	0	0	0	0	0	0	0	2
Hosiery and knitting,	7	0	0	0	0	0	0	0	0	0	0	7
Iron and steel, blast furnaces, foundries and rolling mills,	1	0	0	0	0	0	0	0	0	0	0	1
Laundries,	6	1	1	0	0	0	0	0	0	0	2	5
Leather goods and saddlery,	2	0	0	0	0	0	0	0	0	0	0	2
Machine and repair shops, variety,	1	0	0	0	0	0	0	0	0	0	0	1
Metal, miscellaneous,	6	0	0	0	0	0	0	0	0	0	0	6
Miscellaneous,	2	0	0	0	0	0	0	0	0	0	0	2
Planing mills,	1	0	0	0	0	0	0	0	0	0	0	1
Plumbing and tinning,	2	0	0	0	0	0	0	0	0	0	0	2
Printing establishments,	4	0	0	0	0	0	0	0	0	0	0	4
Rubber goods,	1	0	0	0	0	0	0	0	0	0	0	1
Silk and lace,	1	0	0	0	0	0	0	0	0	0	0	1
Textiles,	2	0	0	0	0	0	0	0	0	0	0	2
Mercantile Establishments:												
Automobiles and accessories,	1	0	0	0	0	0	0	0	0	0	0	1
Barber shops,	6	1	2	0	0	0	0	0	0	0	3	4
Boots and shoes,	17	0	2	0	0	0	0	1	0	0	3	14
Confectionery and ice cream,	11	0	0	0	0	0	0	0	0	0	0	11
Department and general stores,	8	0	1	0	0	0	0	0	0	1	1	7
Drugs and medicines,	14	0	3	0	0	0	0	0	0	0	3	11
Flour, feed and hay,	2	0	0	0	0	0	0	0	0	0	0	2
General stores (rural),	14	0	5	1	0	0	5	0	1	0	12	6
Groceries,	57	0	10	1	0	0	0	0	0	0	11	46
Hardware,	8	0	1	0	0	0	0	0	0	0	1	7
House furnishings,	6	0	0	0	0	0	0	0	0	0	0	6
Jewelry,	4	0	0	0	0	0	0	0	0	0	0	4
Ladies' furnishings,	1	0	0	0	0	0	0	0	0	0	0	1
Meats,	13	0	0	0	0	0	0	0	0	0	2	11

NUMBER OF INSPECTIONS MADE AND ORDERS ISSUED FOR REMOVAL OR REMEDYING OF FIRE HAZARDS—Continued.

Buildings Inspected.	Number of inspections.	Removal of or general repairs to dilapidated buildings.	Removal of rubbish and waste accumulation and regulating proper disposal thereof.	Regulating proper storage of explosives (petroleum products, chemicals, powder).	Repair chimney or stovepipe connections.	Repair roof.	Repair defective wiring.	Change or repair heating arrangement.	Change or repair lighting arrangement.	Install fire extinguishers, sand or water buckets.	Total number of orders.	Orders not necessary.
Men's furnishings,	10	0	0	0	0	0	0	0	0	1	1	9
Millinery,	7	0	0	0	0	0	0	0	0	0	0	7
Miscellaneous with dwelling occupancy,	12	6	2	2	4	0	3	0	0	1	12	4
Musical instruments and sewing machines,	1	0	0	0	0	0	0	0	0	0	0	1
Notions and novelties,	1	0	0	0	0	0	0	0	0	0	0	1
Restaurants,	16	0	1	0	1	0	1	0	0	0	3	14
Stationery and Wall paper,	7	0	0	0	0	0	0	0	0	0	0	7
Tailoring,	14	0	1	0	0	0	1	0	0	0	2	12
Tobacco and cigars,	25	0	4	0	0	0	2	0	1	0	7	19
Wholesale groceries and fruits (retail also),	5	0	1	0	0	0	0	0	0	0	1	4
Miscellaneous,	4	1	0	0	1	0	0	0	0	0	2	3
Miscellaneous,	6	6	0	0	0	0	0	0	0	0	6	0
Outbuildings (city and town),	4	4	3	0	0	0	0	0	0	0	7	0
Theatres and motion picture houses,	4	1	0	0	0	0	0	0	0	0	1	3
Warehouses and Storage:												
General storage,	1	0	0	0	0	0	0	0	0	0	0	1
Totals,	377	34	52	4	6	4	13	1	2	4	120	286

STATISTICAL COMPARISON OF 1917 WITH 1918 NUMBER OF FIRES, INSURANCE, LOSS AND PER CAPITA LOSS IN FIVE CITIES HAVING A POPULATION OF 20,000 AND UPWARD IN PENNSYLVANIA AS REPORTED BY THE NATIONAL BOARD OF UNDERWRITERS.

	Number of Fires.		Value of Property.		Insurance.		Loss.		Loss Per Capita.	
	1917.	1918.	1917.	1918.	1917.	1918.	1917.	1918.	1917.	1918.
Allentown,	167	161	$614,822	$1,551,775	$454,575	$520,325	$28,975	$33,254	$0 45	$0 47
Altoona,	348	300	1,806,130	1,812,135	977,625	1,225,521	56,200	69,799	87	1 16
Bethlehem,		74		571,556				168,360		4 21
Braddock,	80	81		81,170		76,150	81,800	46,936	3 56	2 04
Butler,	72	76	275,950	530,000			18,708	106,200	65	3 54
Chester,	195	158		5,454,872	239,000	293,900	77,300	293,900	1 72	4 90
Dunmore,	54	45	307,545	147,750	184,075	90,550	107,051	52,925	4 89	2 35
Easton,	123	103	475,925	168,195	313,700	90,475	29,911	7,505	98	24
Erie,	404	408	16,069,095		16,027,795	11,421,700	707,564	349,353	9 31	3 17
Harrisburg,	103						97,805		1 36	
Hazleton,	65	39	1,123,520	636,385	568,758	291,876	430,957	153,993	14 37	4 97
Homestead,	120	105					5,227	11,385	22	45
Johnstown,	487	398			4,278,585	2,273,532	56,543	540,104	81	7 71
Lancaster,	102	102	443,760	809,075	360,498	631,400	48,727	111,757	90	2 07
Lebanon,	22	16		93,000		52,400	5,548	5,655	26	22
McKeesport,	154	213					56,273	76,710	1 13	1 39
Nanticoke,		61						31,945		1 28
New Castle,	375	308	3,428,754		785,973	785,572	35,628	62,000	79	1 38
Norristown,	61	87	618,850	278,400	315,260	111,500	12,705	14,994	49	50
Philadelphia,	4,099	4,831			120,929,403	121,220,800	3,692,136	4,339,794	2 13	2 41
Pittsburgh,		2,549				19,043,892		1,573,616		2 62
Pottsville,	81	94	313,857	836,870	114,950	433,860	8,582	46,514	36	1 78
Reading,	215	191					386,169	178,573	3 51	1 62
Scranton,	548	478	4,563,990		2,315,087	3,250,550	289,069	127,475	1 90	85
Shamokin,	50						26,870		1 22	
Shenandoah,	24						8,000		25	
Washington,	123	117						3,898	36	14
Wilkes-Barre,	183	203	6,168,910	2,910,590		1,262,527	50,476	96,795	66	1 21
Wilkinsburg,	82	75	422,500	75,000	210,300	27,500	8,909	15,006	30	55
Williamsport,	141	128	4,277,968	1,855,174	1,957,700	1,104,205	78,463	181,928	2 24	5 20

RURAL FIRE PROTECTION.

The question of Rural Fire Protection is a vital one, and a subject to which attention is being directed more and more in every part of the country. Ways and means are being discussed that will result in the adoption of a method by which the farmer can enjoy to some extent the protection afforded to those living in cities, boroughs and towns. As a very large percentage of our people do not live within the limits of protected areas a fire means complete destruction of home, outbuildings, and often stored crops.

It is quite apparent that horse drawn apparatus from the larger cities or towns, cannot render much aid to rural districts owing to distances necessary to travel and the limit of equine endurance, nor can the small country towns usually having an equipment, consisting of possibly a hose reel and small chemical tank on wheels, and in some instances supplemented by the elevated tank water system, render any assistance to his neighbor, the farmer, who may reside two or three miles outside of the town limits. Recently, however, there has been introduced and placed on the market light auto fire fighting apparatus, combining chemical and pumping engine, hose wagon and from 500 to 1,000 feet or $2\frac{1}{2}$-inch hose. This equipment admirably fits the requirement of small communities and is amply able to render protection to a considerable section of the surrounding country within a reasonable distance. If small communities and outlaying districts combine in the securing of such an equipment, the cost of which could be arranged for by contributions by all the residents of a district or zone, using the telephone as means of registering alarms, there is reasonable assurance that the protection afforded will result in the saving of property and fully warrant the expenditures. There are many such equipments now on the market that are especially adaptable for such service, the cost being inconsiderable, when the capability of service is considered. One machine centrally located could render service to several small communities and surrounding country, and owing to the simplicity of operation and lightness, could be available for quick action, as the very essence of successful fire fighting by a fire department is rapidity in arriving at place of fire and effectiveness in fire fighting machinery.

All fires are the same size at the start and the first five or ten minutes is the critical time which decides the amount of loss. Motor apparatus which can be operated by anyone capable of driving an automobile enables the fire department to get there quickly and to do effective fire fighting when it arrives. Simplicity in handling and rapidity of movement together with well trained operators, will eliminate much of the confusion ordinarily attendant at rural fires, and often prevents a disastrous conflagration by preventing the spread of fire and confining it to the structure in which it started.

To such an extent has interest been directed to fire protection for rural districts that nearly every State is now engaged in experiments that will finally result in adequate protection being afforded rural districts which heretofore have been dependent on neighbor's help and the slight assistance to be obtained by the use of a bucket brigade.

In Massachusetts and other New England States the old time town meeting in which the voters of the town meet periodically and vote appropriations for various township needs, furnish a method of meeting this requirement. Many towns have already availed themselves of this method to obtain fire fighting equipment and others are planning to do so.

In New York State there is a fire district law under which, on petition of a number of the voters of a district, the authorities can set off any section of the country named in the petition as a fire district and the voters in this district elect fire commissioners who issue bonds for the purchase of fire equipment which is then located in the center of the district and used for the protection of the entire district. Other States are passing laws permitting townships, or district authorities on petition of residents to join with other towns or districts in the purchasing of apparatus for mutual protection.

Pennsylvanians ever alert to take advantage of movements of conservation and in recognition of the unnecessary fire loss, owing to inadequate facilities for extinguishment in rural districts, are gradually coming to know that no reason exists why the mill or store owner, or the farmer remotely located cannot receive protection against fire. The fact that it is possible and that protection is available is demonstrated by the establishment of zone systems in the County of Berks where today 1,334 farmers and other subscribers living a distance from centers having modernized fire fighting apparatus, are now as-

sured in case of emergency that they will receive assistance and that the same will be rendered just as promptly as it is possible to respond to a call.

The example set by the Berks County Firemen's Association in its conception of instituting a method of rendering aid to the heretofore helpless, is most praiseworthy and its adoption by every county in the State will have the effect of greatly reducing the unnecessary fire loss, much of which is due to the present inability to fight fires which occur in rural districts.

The members of the Berks County Association are striving to successfully zone the entire county for the purpose of rendering aid to every resident and it is expected that the efforts put forth by the committee in charge of the work of forming the various zones will meet with success, as the results already attained in zones established and the hearty financial support given by those in rural districts, who heretofore have been without protection, indicates that those who live at a distance from protected centers are ready to do their part if properly approached.

There is a way to render assistance and there is a way to obtain it. Residents of Rural Districts take up the question of fire protection for your home with the fire department of the nearest center having a well equipped fire department and do your part towards the upkeep of the same in return for the rendering of aid when most needed.

"Safety" and "Sanity" should be Fourth of July watchwords.

CONSTRUCTION OF BUILDINGS.

Let the prevention of fires start with the proper construction of buildings. If you are about to build a new home or other buildings, or rebuilding, take seriously into consideration building with fire proof material. Prominent architects have estimated that at the present price of building material fire proof structures can be erected at a cost not to exceed ten (10) to fifteen (15) per cent. more than non fire proof, and considering the deterioration of fire proof buildings to be about one per cent. as against four per cent. of ordinary buildings and that they rent better; that money can be borrowed on

them on better terms; that the insurance is less; that they are vermin proof, cooler in summer and warmer in winter, it can readily be appreciated that it is much better and of self-interest to build the fire proof building rather than non fire proof whenever a building is to be of a permanent character.

A man may have the right in building a home to jeopardize his life and property and that of his family and take his chances with the insurance companies, but when he can with a small additional amount build a permanent home, one that he knows will withstand fire and not be a trap for his own family or a menace to his neighbor's property in his own interest and the interest of fire prevention and protection he should be compelled by law to build from fire proof material.

If one-half of the money spent for fire losses was expended for better building construction the annual loss by fire would soon begin to decrease. Improvements along the line of better construction should be urged in all communities, that it should be the duty of all persons charged with the inspection of buildings, or issuing permits for construction to urge that all buildings be built of fire proof material.

It is the desire of this department to assist in materially reducing the per capita fire loss and we ask your co-operation as it is for your especial benefit. This per capita fire loss amounts to $3.00 per annum; or, in other words, the head of a family of five has to pay annually $15.00, which really means a tax because of excess premiums over insurance paid and the heavy cost of protection owing to faulty construction. The loss is absolute and irrecoverable. Not one dollar of it ever comes back. It is a heavy tax and nothing received in return. Will you aid in fire prevention and protection?

It is all right to have a good time, but it is all wrong if it is practically certain that the good time will be attended with dire results. Le'ts have a sane Fourth!

CO-OPERATION NEEDED.

The work of the State Fire Marshal is directed towards the saving of property which is uselessly sacrificed by neglect, carelessness, and the folly of owners or tenants, and he is using every effort to accom-

plish this purpose by advocating fire prevention as a means which is within the power and knowledge of every person to assist in forwarding. It is indisputably to your interest to do so, not only from an individual point of view, but your standing in the community in which you live demands that you lend your aid to any movement that is of such special benefit as the conserving of the lives and property of the citizens. By co-operating with the work of the Department the citizens of the State, regardless, of station, whether they be owners of property or merely occupants of one or more rooms, can produce results which will greatly repay for the exertion put forth.

Fire prevention, like fire fighting, is an evolution; not a revolution. Education will, in this important movement to which no particular attention has been heretofore given, do much to bring about a realization that the time is now here for this evolution. Take it to yourself. Would you not rather expend some of your leisure time to the safeguarding of your property, rather than neglect to do so and sustain a loss by fire that is absolutely unnecessary? You can do this by studying your interest, getting busy and making a thorough inspection of your home or of any other building that you have an interest in and immediately giving orders to CLEAN UP and see that it is done, so that hereafter no accumulation of anything that would cause fire is permitted to remain in or about the premises.

Carelessness is one of the greatest, if not the greatest, causes of fires; during the winter much useless material may have accumulated and been stored away in closets, cellars, attics or other out of the way places just to get it out of sight until the season's CLEAN UP. This should not be; it is a dangerous practice. There should be no packing away of useless articles or other material of inflammable nature. All such should be immediately removed and destroyed. If this is done, it will make house cleaning much easier and lessen the causes of many fires. Use care in getting rid of rubbish. If burned, do not do so on a windy day; nor should it be piled near a building. Be sure not to leave a smouldering fire. A few sparks from a rubbish fire may fall on a roof and cause a destructive fire. Adopt the plan of having a CLEAN UP DAY every day and help reduce the fire waste, which is of such enormous cost, not only to you, but to all your neighbors.

If rubbish is burned every night or morning, either in the furnace or in a metal oven, with mesh wire over the top, the danger of fire from careless lighting will be eliminated. If it is not destroyed every day, the pile grows and the danger of fire increases in like proportion. Oily rags will produce spontaneous combustion, and should always be kept in closed Metallic receptacles. Many instances can be cited where great destruction of property has occurred by fire started through the spontaneous combustion of oily rags which were thrown in a corner or closet and forgotten. Business men fail to safe-guard their business, which strict economy and industry have created. Nor do they give a thought to the protection of the lives of their employees. They, of course, carry insurance and, in case of fire, expect to be re-financed from this source; but those who have experienced such a loss know that no amount of insurance can restore lost trade which becomes scattered, as the inevitable result of fire-loss which was probably caused by carelessness and could have been avoided by the prompt removal of fire-breeding material and keeping premises clean.

Every parent should see that the house is which he lives is a safe abode for his family. There should be protection against physical danger, theft, disease, fire, etc. The first two dangers should be taken care of when the house is built, while the last two are matters of more or less constant attention. When disease is indicated by symptoms, you immediately call a physician, but when fire threatens you, you are unprepared, though you should realize that danger from that source is constant and comes when least expected. Be prepared by the introduction of fire extinguishers that can be used by even the children, and should do so at once; they are considerably less expensive than a fire and have been the means of saving many lives and much property. Two or three one-quart extinguishers placed through the house, ever ready for emergencies, will certainly produce a sense of security in the minds of the inmates and perhaps be instrumental in saving from destruction the property that represents the expenditure of years of energy and deprivation of many pleasures.

An eye out, an ear off, an arm shattered, a life lost, a home destroyed. All these might have been averted had the Fourth of July celebration been a Safe and Sane one.

MONTHLY BULLETIN

"MAKE PENNSYLVANIA FIREPROOF"

Department

OF THE

State Fire Marshal

OF

Pennsylvania

OFFICE—ROOM 166
Capitol Building, Harrisburg, Pa.
HOWARD E. BUTZ, State Fire Marshal

VOL. VI JULY, 1919 No. 40

THE FIRE FIEND SAYS

(With Apologies to "Smiles")

There are fires that make you cheerful,
There are fires that make you sad,
There are fires that drive away the dampness,
There are fires that make you mad.
There are fires that have peculiar startings,
There are fires that firemen never see.
But the fires that fill the world with ruins
Are the fires that you get from me.

Vol. VI No. 40

Monthly Bulletin

Department

OF THE

State Fire Marshal

OF

Pennsylvania

HOWARD E. BUTZ, State Fire Marshal

BULLETIN OF INFORMATION FOR THE PUBLIC

JULY, 1919

HARRISBURG, PENNA.:
1919

SOLVENTS FOR MANY PROBLEMS.

Carelessness the Reigning Evil of the Fire Demon.

The war has proved a "solvent" for many problems of a National character. Problems that only a short time ago would have seemed baffling and insurmountable have been overcome and their solution has redounded to the benefit and upbuilding of the Nation.

Conditions were forced upon us as a peaceloving nation which we were compelled to face and which providentially emancipated us from the "feeding bottle" class—enabling the country to throw off its swaddling clothes for those of more sturdy attire. The war, with all its terrible suffering and sacrifices, has done even more than that, it has made us think; it has given us more confidence in ourselves, more reliance in our ability to do things, and taught us to know the meaning of thrift; but, it has not changed our habits of carelessness and wastefulness, for which we have established an unenviable reputation throughout the world.

With the triumphant ending of the world war additional responsibilities are placed on our shoulders entailing greater demands on our food supplies and other products of the country.

The conservation of our resources, from destruction by fire, is now more imperative than ever. Not only must we supply the needs of our soldiers who are returning to their homes and are again employed in peaceful, productive occupations; but also those who remain "over there" to guard the interest of the allies. We must also help feed the peoples whose lands have been devastated by the fiendish Hun, who wrought death and destruction along his path and caused turmoil and suffering throughout the world.

The ability of our country to successfully compete with other nations of the world for the business that is available during the reconstruction period depends upon its financial strength—its potential power to further develop its industries and produce more foodstuffs.

After co-ordinating our efforts "to produce" it is of paramount importance to protect those products from destruction by fire if we

would maintain our supremacy in the march of progress and prosperity.

We must not relax but rather redouble our efforts to reduce the fire waste of the United States.

Americans have proved themselves "great fighters"—they have the heroic valor and resourceful intelligence necessary to overcome their enemies.

The next war, though a peaceful one, should be none the less strenuous against the strongly entrenched demon "Fire."

Unfettered fire is one of our worst enemies—it kills, devastates, and destroys in a ruthless manner.

If we can make as good progress in our fight against fire as we have against the Hun we will have won a great battle.

Aggressive action is needed. Everyone should co-operate in the work of Fire Prevention and help to educate and bring people—young and old—to a realization that they must be more careful about their "habits." Statistics regarding the cause of fires show that we are the most careless people on earth. We toil unceasingly to acquire comfortable and attractive homes, and yet two out of every three fires that occur are in the homes of the people; and worse still, is the amazing fact that eight out of every ten of all the fires that occur are preventable.

"Carelessness" in doing the ordinary things about the house is the chief cause of a great many fires; and for this unnecessary waste—men, women and children appear to be equally culpable.

"Cleanliness is next to Carefulness in the Prevention of Fire;" it is our habits that first need correction. The change in our mode of life is one of the serious problems that now confront us. We must change our thoughts and our actions so as to effectively change our careless habits. These habits appear to have become in-grown with our very nature. Witness, for instance, the way in which lighted matches and cigarette butts are thrown around. When we succeed in overcoming carelessness, the tax for fire waste of the country will be greatly reduced.

As a matter of patriotism it is a duty that we owe to our country and humanity at large to prevent destruction of life and property by fire. There are more than four times as many people burned to death every year in the United States as are killed on steam and electric railways.

Besides amending one's habits of carelessness, much can be done by the individual to eradicate the terrible fire waste that is impoverishing our country. "Example is better than precept"—the removal of fire menaces and unnecessary hazards in one's home, barn, store or factory can be easily done; after being thus forearmed, one would feel fortified to suggest to others "to go and do likewise."

The power of suggestion is remarkable, and thus we may perhaps, often unconsciously, teach the doctrine of "Fire Prevention" and radiate an influence for good that is widespread and most effective.

It is desirable that every person should enlist in the army of "Fire Preventionists," especially women, who might well direct their efforts towards the education of the children on fire prevention lines.

When one member is injured all members of the human body suffer with it; so it is with the destruction of our homes, barns, factories, and resources by fire—we all suffer. Medical science teaches us that certain diseases are caused by certain bacteria and the only way to get rid of the disease is to attack the microbes by sterilization. We must pursue the same course if we are going to reduce the number of fires. We must eradicate the cause—by amending our careless habits and keeping our premises free from accumulations of combustible rubbish, etc.

The fire waste touches the pocket of every man, woman and child in the country. It is an indirect tax. It is paid in the cost of everything we eat, drink and wear. The fact that most of the money paid by insurance companies, out of the premiums they collect, is for losses caused through carelessness, is a serious indictment against an intelligent, progressive people—an indictment against our "habits."

You are most earnestly requested to join the great army of fire preventionists and help through your influence and hearty co-operation to reduce the fire waste and fire tax of the country.

There are great possibilities in co-operation. Drops of water are valuable only when they combine. Alone they dry up and vanish. The world war has furnished some striking examples of what may be accomplished through co-operation. Kipling has put it in a terse way:

> "It ain't the guns nor armament, nor the funds that they can pay,
> But the close co-operation that makes them win the day—
> It ain't the individual, nor the army as a whole,
> But the everlastin' teamwork of every bloomin' soul."

We must be inspired by this feeling of co-operation if we are going to win. If we only make up our minds to do it—we will win.

Taught by experience and the serious lessons of life, as a progressive people, let us strive to better our conditions.

Vast strides are being made in the preservation and improvement of the health of the nation by educating the children in hygiene; and let us hope that results of equal importance to the wealth and prosperity of the nation may be obtained by educating the children in fire prevention methods, so that their careless habits, as well as our own, may be changed.

Don't simply read but study every one of the following articles. They have been compiled with great care for your benefit. Learn what you ought to do to avoid fires, and do it now. Neglect may mean sorrow and suffering, even loss of life—loss of valuable stock that money cannot replace—loss of the savings of a lifetime.

STOP FIRE WASTE.

The fight against fires consists of two important branches, Prevention and Extinguishment. Of the two Prevention is the more important for if by carefulness fires are prevented there will be no call for extinguishment, and the result will mean the saving of both life and property. In the prevention of fires women can do most effective work and naturally they should use every means possible to do so; they are the home-keepers and are responsible for the care of the home and the safeguarding of the lives of the little ones and most assuredly should use every means to avoid casualties and loss which occur from neglect and carelessness within the household. Good houekeepers seldom burn out. If in doubt as to whether conditions are safe in your home, call a reputable builder, have him make a thorough inspection of the entire building and correct any defects that may be found. If contemplating the erection of a new home secure the services of a first-class architect and builder and instruct them to plan for, and erect a non-burnable structure, the cost of which

is but slightly more than the cost of one built to burn. See that particular attention is given to providing safe chimneys and flues and that the electric wiring is without defects. While the building may be in accord with all you desire, remember that the contents are burnable and that care must be taken. Make frequent inspections of cellar, attic, and closets. Do not permit the accumulation of anything that would cause fire. Use care. Avoid carelessness.

In every city, borough and township in Pennsylvania there is an Assistant State Fire Marshal who is interested in the reduction of the fire loss and who will gladly inspect your building. You perhaps do not realize the value of inspections—and how many fires they prevent. Try it in the interest of the prevention of fire.

Everything in your house that is useless and an invitation to fire and which is probably stored away in odd corners of cellar, attic or closet is a menace and jeopardizes the home which may cost thousands of dollars. Get rid of junk. Keep every place clean, by doing so you are hitting the fire demon a severe blow. Most fires start from accumulations and when least expected, and usually get a good start before you are ready to begin the fight. Use care and avoid the necessity of fighting fire by preventive measures.

FIRE PREVENTION AN ECONOMIC POLICY.

It is an extremely difficult matter to instil into the mind of the average citizen a realization of the high economic question involved in the problem of decreasing the fire waste that is sapping the resources of the country, on an average of between two hundred and fifty and three hundred million dollars annually, and notwithstanding all that has been said and written on the subject, proving beyond question that the cause is carelessness and preventable. There seems to be an uninterrupted submission without effort for correction to the destruction by fire of this great wealth which is produced by the brains and skill of our citizens. At times there appears to be some sign of awakening to the subject and a recognition given to the fact

that "wealth once destroyed by fire can never be restored," but the great mass of people soon return to indifference, and occasionally offer direct opposition to any movement that is intended, especially for their benefit, deeming it an imposition, interference, or impertinence to be told of their lack of carefulness and civic pride in allowing conditions to continue, which invite disaster.

Those actively engaged in the campaign against waste by fire, whether working officially or from a recognition of the shameful and preventable waste by the negligence of our citizens, amounting in the past forty years to over $700,000,000—just wasted and beyond redemption. It is time that people arouse themselves to an appreciation of their responsibility and use more effort in safeguarding property against the ravishing by fire by eliminating the cause and preventing fires.

Fire Prevention is nothing more or less than good old fashioned common sense and forethought, as applied to the care of buildings and equipment installed therein, particularly the dwelling house and furnishings, we call home. It should be and is the dearest spot on earth, and it is most difficult to understand how the occupant of either a dwelling or other structure can continue the indifference to conditions which are daily recorded in the newspapers, describing some terrible conflagration, in which perhaps a number of lives have been sacrificed and valuable property destroyed, usually the article ends "Caused by carelessness and neglect to conform to the laws enacted for the protection of life."

The story is soon forgotten in the perusal of other articles of more interest and no thought is given to a possible defective flue, rubbish in cellar or closets, accumulation of rags or discarded clothing in attics, or litter thrown against the back yard fence, all of which constitutes a fire menace. While this is a reflection on the individual it applies as well to communities where, notwithstanding endeavors made by officials to induce the citizens to arouse themselves to self and community interest in the avoidance of carelessness, the cause of sixty per cent. of all fires, they heed not and as a consequence the loss from fires continue to mount higher and higher each year. In addition to the stupendous waste and its attendant cost, the continous wastefulness is added year by year to the cost of insurance and further taxes are increased to cover amount formerly collected on property destroyed and the cause of all just carelessness, for which

there can be no excuse and the only reason for its existence is a lack of appreciation of a loss by fire until it effects the individual and perhaps destroys in a brief time the home or business which required years of hard work and stinting to acquire, nothing left, but regrets for failure to take ordinary precaution against just such a calamity, —a possibility to which your attention has doubtless been directed time and again by Fire Prevention Advocates, Insurance Companies, Municipal Officials, or perhaps friends who have urged you to profit by the unfortunate misfortune of others and use means to avoid loss.

Fire waste is a growing menace and must be checked. It can be done, but requires concerted action and the co-operation of officials and citizens to accomplish it, and unless this is brought about the burden must be carried by the continual increase in cost of commodities. All citizens should willingly assist in the reduction of waste, it makes better citizens, better communities and better homes.

Organize in your community a committee for the purpose of reducing the fire waste by the prevention of fires, see that all menacing conditions are removed from in and about premises, see that no accumulation of fire breeding trash is allowed in stores, homes, alleys or other out-of-way places, have regular inspection made of all properties and remove or correct dangerous conditions. Instruct the children both in school and at home in preventing fires and by these means relieve yourself and community from the additional taxes necessarily imposed to cover losses by fire.

HOW THE HOUSEWIFE MAY PREVENT FIRES.

Fireproofing Clothing and Decorations.

It is a simple thing to make decorations fireproof and especially is this necessary, and should be compulsory, in the case of public festivities, as, for instance, where a number of children are gathered together for the annual Christmas tree fete. The following is a simple and yet absolutely efficient means of making decorations, cotton, wool, etc., non-inflammable:—

FIREPROOFING SOLUTION.

Commercial Ammonium Phosphate, One Pound. Water, One Gallon.

Fabrics immersed in this solution, slightly wrung, and dried will not ignite when touched with flame, and furthermore, when placed

directly in flames, the material will only char, and upon removal there will be no smouldering fire. To obtain these results care must be exercised to see that the frabric is completely saturated with the fireproofing solution and that sufficient of the absorbed solution remains in the fabric, so that after wringing, and upon evaporation of the water, ample ammonium phosphate remains on the fibre to fireproof it. Ammonium phosphate in addition to its great fireproofing qualities has the power to render the dye fast.

The solution may be mixed in larger or smaller quantities so long as the same proportion of ingredients is used; that is, one pound of commercial ammonium phosphate to one gallon or ten pounds of water, making it a ten per cent. solution. The solution is harmless and is not injurious to the skin. It may be used for a variety of fireproofing purposes where cotton, wool or silk materials are worn or used near fire, especially where persons are working near furnaces or open flames. Curtains, draperies, children's clothes and decoration of all kinds in houses as well as in stores and hotels should be fireproofed.

When a fabric that is fireproofed is immersed in this solution, do not wring it out any more than you would wool underwear when washing in the usual way.

Permitting the accumulation of rubbish and trash as above shown is not only disgraceful, but an evidence of carelessness and an invitation to the evil-minded to start a fire which might cause loss of life and thousands of dollars of valuable property.

Clean premises are a delight to the eye and afford an element of safety that should be observed. Clean up and keep clean.

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NUMBER OF FIRES REPORTED SHOWING VALUE OF PROPERTY LOSS AND INSURANCE.

During the Month of February—1919.

(Exclusive of Philadelphia and Pittsburgh.)

Counties.	No. of Fires.	Estimated Value.	Estimated Loss.	Amount of Insurance.
Adams,	1	$1,500	$0 57	$1,500
Allegheny,	64	203,097	52,450	148,150
Armstrong,	9	19,150	479	12,200
Beaver,	10	19,940	3,220	16,590
Bedford,	8	8,275	5,251	3,200
Berks,	30	207,420	11,781	251,440
Blair,	22	70,075	8,095	30,600
Bradford,	12	30,899	4,065	18,149
Bucks,	1	2,000	77	2,000
Butler,	9	21,450	7,335	13,975
Cambria,	22	314,165	39,620	127,670
Cameron,	4	7,800	598	6,100
Carbon,	2	1,400	38	1,000
Centre,	7	52,862	623	24,100
Chester,	17	138,430	16,397	72,220
Clarion,	2	2,350	965	1,000
Clearfield,	10	69,795	10,874	56,250
Clinton,	5	6,300	183	4,325
Columbia,	7	11,800	2,311	11,975
Crawford,	10	17,450	3,736	9,600
Cumberland,	3	11,500	187	7,800
Dauphin,	25	108,750	14,206	90,300
Delaware,	29	212,875	23,820	191,850
Elk,	1	2,000	10	2,000
Erie,	58	1,707,430	23,376	2,903,507
Fayette,	21	217,092	123,828	116,700
Forest,	1	1,500	24	800
Franklin,	4	3,155	90	2,900
Fulton,	1	1,100	37	800
Greene,	2	4,550	4,550	500
Huntingdon,	11	23,550	8,368	14,100
Indiana,	4	29,479	897	10,700
Jefferson,	3	9,400	4,424	11,800
Juniata,	1	3,500	3,455	2,955
Lackawanna,	40	389,410	15,235	318,050
Lancaster,	22	53,675	33,633	32,607
Lawrence,	9	16,900	249	8,800
Lebanon,	7	119,550	78,138	114,300
Lehigh,	15	277,125	5,027	228,550
Luzerne,	41	281,852	204,503	150,700
Lycoming,	17	880,535	9,088	85,700
McKean,	7	23,325	8,769	19,250
Mercer,	18	1,063,758	27,566	35,150
Mifflin,	4	10,200	1,071	8,900
Monroe,	4	5,100	3,159	2,890
Montgomery,	9	15,067	1,434	12,000
Montour,	2	2,800	792	1,400
Northampton,	18	50,361	8,291	35,736
Northumberland,	15	74,976	11,469	57,475
Perry,	2	16,200	1,477	7,525
Pike,	3	1,300	260	600
Potter,	6	4,736	558	4,100
Schuylkill,	11	38,830	4,598	16,796
Snyder,	2	1,900	708	800
Somerset,	1	4,300	200	----------
Susuehanna,	6	3,400	707	2,725
Tioga,	4	9,200	1,665	4,200

NUMBER OF FIRES REPORTED SHOWING VALUE OF PROPERTY LOSS AND INSURANCE—Concluded.

Counties.	No. of Fires.	Estimated Value.	Estimated Loss.	Amount of Insurance.
Venango,	12	80,072	20,182	27,600
Warren,	4	187,400	95,600	359,600
Washington,	30	101,691	25,703	55,991
Wayne,	3	2,100	1,109	1,700
Westmoreland,	19	96,064	13,403	45,694
Wyoming,	2	1,700	445	935
York,	11	16,750	3,882	13,600
Total,	760	$7,466,316	$954,372	$5,822,130

CLASS OF STRUCTURES DESTROYED OR DAMAGED BY FIRE.

During the Month of February—1919.

(Exclusive of Philadelphia and Pittsburgh.)

Structures.	No. of Fires.	Loss.
Apartment houses, boarding houses, dwellings,	397	$116,805
Automobiles,	10	1,595
Bank and office buildings,	3	2,482
Barns and stables (city and town),	22	20,988
Boat houses,	2	800
Chapels and churches,	5	1,214
Club, lodge and society rooms,	2	1,635
Cottages, club houses and season homes,	1	29
ELECTRIC RAILWAY PROPERTY:		
Miscellaneous,	2	205
Farm crops in field,	1	36
FARM PROPERTY:		
Barns and stables,	24	65,356
Dwellings,	140	97,330
Outbuildings,	8	6,497
Garages—private,	5	283
Garages—public,	9	30,632
Hotels,	8	195,289
Incinerating plants,	1	700
Jails, prisons, reform schools,	1	50
MANUFACTURING AND INDUSTRIAL ESTABLISHMENTS:		
Agricultural implements,	1	1,475
Blacksmith shops,	5	3,140
Carpenter shops,	1	102
Carriages and wagons,	1	20
Cigars and cigarettes,	2	667
Clothing (men's), linens, hats, caps, gloves,	1	50
Clothing (women),	1	231
Confectoinery,	1	21
Feed and flour,	1	8,000
Hosiery and knitting,	1	74,354
Iron and steel, blast furnaces, foundries, rolling mills,	6	785
Laundries,	3	572
Machine and repair shops—variety,	1	3,000
Metal—miscellaneous,	3	22,520
Miscellaneous,	8	7,076
Oil refineries,	2	90,000
Silk and lace,	1	53
Coal mining property,	3	16,436
MERCANTILE ESTABLISHMENTS:		
Barber shops,	3	28,149
Department and general stores,	3	40,200
General stores (rural),	2	5,336
Groceries,	2	167
House furnishings,	1	14,927
Miscellaneous with dwelling occupancy,	39	41,423
Tailoring,	1	1,720
Tobacco and cigars,	1	45,000
Undertaking,	1	30
Miscellaneous,	12	1,743
Outbuildings (city and town),	3	810
RAILROAD (STEAM) PROPERTY:		
Freight rolling equipment,	1	8,000
Road houses, saloons and taverns,	2	1,007
Schools—public,	3	720
Telegraph and telephone exchanges,	1	62
Theatres and motion picture houses,	1	600
WAREHOUSES AND STORAGE:		
General storage,	1	50
Total,	760	$954,372

MATERIALS USED IN CONSTRUCTION OF BUILDINGS DESTROYED OR DAMAGED BY FIRE.

During the Month of February—1919.

(Exclusive of Philadelphia and Pittsburgh.)

Material.	No. of Fires.	Loss.
Brick,	131	$109,336
Brick and stone,	2	1,021
Concrete,	8	7,404
Fireproof,	1	2
Stone,	17	28,499
Stucco,	1	8,000
Wood or frame,	578	680,365
Wood with brick or stone,	6	110,439
Unclassified,	13	2,706
Iron covered (galvanized),	1	700
Not reported,	2	5,900
Total,	760	$954,372

CAUSE OF FIRE AND LOSS INCURRED.

During the Month of February—1919.

(Exclusive of Philadelphia and Pittsburgh.)

Cause.	No. of Fires.	Loss.
Adjoining fires,	52	$90,548
Ashes (hot)—careless disposal,	5	3,956
Backfire,	4	3,075
Candle carelessness,	11	460
Chimney—flues—stacks—defective and overheated,	94	50,633
Cigars and cigarettes (lighted)—carelessly discarded,	15	4,690
Clothing and curtains exposed to contact with stove, heating appliances and unprotected lights,	32	18,155
Coals (hot)—falling from stove or furnace,	14	709
Cooking appliances (electric—gas—alcohol), carelessly used,	1	121
Electric, flat and gas iron carelessness,	3	4,638
Electric wiring—defective,	20	24,351
EXPLOSIONS,	5	24,220
Alcohol—gas and oil lamps,	8	2,116
Alcohol—gas and oil stoves and heaters,	20	7,816
Charcoal dust and gas,	1	40
Coal oil and kerosene—starting fires and filling lamps and lanterns,	1	50
Gas leak,	4	43
Gasoline—benzine—naphtha—careless use and cleaning with exposed fire or unprotected lights,	5	7,065
Gasoline—pipe or storage leak,	1	125
Oils—(inflammable)—ignition,	3	90,300
Water back,	1	29
Fireplace—defective or overheated,	11	2,266
Fireworks,	1	12
Flat irons and bricks (heated) used for warming purposes in bed,	2	31
Furnaces, heaters, stoves and their pipes—defective or overheated,	53	40,093
Fumigation,	1	30
Grease ignition on stove,	1	15
Incendiary,	7	11,615
Lamps and lanterns—overturned,	4	805
Lightning (no reporwt as to rods),	1	39
Matches—careless use and keeping,	30	13,597
Matches—children,	40	11,365
Matches (lighted)—carelessly discarded,	7	194
Metals (hot)—asphalt, tar, pitch, etc.—ignition of,	1	25
Miscellaneous,	7	265
Motion picture apparatus and films,	1	600
Smoking—carelessness,	4	1,640
Smoking in bed,	4	105
Smoking meats,	5	417
SPARKS:		
Chimneys, flues, stacks, cupola (exposure—adjoining fires),	64	6,587
Fireplace,	7	77
Forge,	4	3,158
Locomotive,	4	361
Running machinery (friction),	2	8,283
Rubbish and brush burning,	2	406
Stationary engines, tractors, etc.,	1	9,000
SPONTANEOUS COMBUSTION,	1	650
Thawing frozen pipes,	3	280
Torch carelessness,	1	8
Undetermined,	175	503,426
Vulcanizing,	1	25
Woodwork and furniture exposed to contact with stove, heating appliances and unprotected lights,	15	5,857
Total,	760	$954,372

NUMBER OF INSPECTIONS MADE AND ORDERS ISSUED FOR REMOVAL OR REMEDYING OF FIRE HAZARDS.

During the Month of May, 1919.

Buildings Inspected.	Number of inspectors.	Removal of or general repairs to dilapidated buildings.	Removal of rubbish and waste accumulations and regulating proper disposal thereof.	Repair roof.	Install fire extinguishers—Sand or water buckets.	Close up openings in buildings.	Place metal or asbestos protection around heat appliances or installation of other fire retardents.	Total number of orders.	Orders not necessary.
Apartment houses, boarding houses. dwellings,	2	2	2					4	
Bank and office buildings,	1				1			1	
Barns and stables (city and town),	1	1	1					2	
Billiard (pool) halls and bowling alleys,	2								2
Club, lodge and society rooms,	1								1
Garages—public,	7		1					1	6
Hotels,	5								5
Livery and sale stables,	2	1	1					2	1
MANUFACTURING AND INDUSTRIAL ESTABLISHMENTS:									
Bakeries,	7								7
Cleaning and dyeing,	2								2
Clothing (men's), linens, hats, caps, gloves,	1								1
Cobblers,	5								5
Electrical and gas goods and appliances,	1								1
Feed and flour,	1								1
Hardware and cutlery,	1								1
Hosiery and knitting,	2								2
Laundries,	5								5
Leather goods and saddlery,	4								4
Machine and repair shops—variety,	3								3
Musical instruments,	1								1
Planing mills,	2								2
Plumbing and tinning,	1								1
Printing establishments,	3		1				1	2	
MERCANTILE ESTABLISHMENTS:									
Automobiles and accessories,	6		1				1	5	
Barber shops,	3								3
Boots and shoes,	24		1				1	23	
Confectionery and ice cream,	11								11
Department and general stores,	13								13
Drugs and medicines,	20				1		1	19	
Electrical and gas fixtures and supplies,	1								1
Flour, feed and hay,	2								2
Groceries,	60		7				7	53	
Hardware,	20	1	1				2	18	
House furnishings,	18		2				2	16	
Jewelry,	9								9
Ladies furnishings,	2								2
Meats,	6		3				3	3	

NUMBER OF INSPECTIONS MADE AND ORDERS ISSUED FOR REMOVAL OR REMEDYING OF FIRE HAZARDS—Concluded.

Buildings Inspected.	Number of inspectors.	Removal of or general repairs to dilapidated buildings.	Removal of rubbish and waste accumulations and regulating proper disposal thereof.	Repair roof.	Install fire extinguishers—Sand or water buckets.	Close up openings in buildings.	Place metal or asbestos protection around heat appliances or installation of other fire retardents.	Total number of orders.	Orders not necessary.
Men's furnishings,	21	------	1	------	------	------	1	2	19
Millinery,	6	------	------	------	------	------	------	------	6
Miscellaneous with dwelling occupancy,	39	------	2	------	------	------	------	2	37
Musical instruments and sewing machines,	4	------	------	------	------	------	------	------	4
Notions and novelties,	5	------	2	------	------	------	------	2	3
Restaurants,	10	------	------	------	------	------	------	------	10
Stationery and wall paper,	8	------	------	------	------	------	------	------	8
Tailoring,	9	------	------	------	------	------	------	------	9
Tobacco and cigars,	10	------	------	------	------	------	------	------	10
Wholesale and retail groceries and fruits,	9	------	1	------	------	------	------	1	8
Miscellaneous,	4	0	1	------	------	------	------	1	3
Outbuildings (city and town),	3	2	------	1	------	------	------	3	------
RAILROAD (STEAM) PROPERTY:									
Freight depots,	1	------	------	------	------	------	------	------	1
Theatres and motion picture houses,	5	------	------	------	------	------	------	------	5
Totals,	389	7	28	1	1	1	1	39	354

HOW TO REMOVE SOOT.

Large numbers of shingle roof and defective flue fires are being reported, due to the increasing use of soft coal. The accumulations of soot on heating surfaces reduce the value of the fuel, and frequently clog the flues and start fires. Joseph Harrington, Administrative Engineer for the United States Fuel Administration located in Chicago, suggests the following plan for removal of soot.

The fire is put into good condition with a substantial body of hot fuel. Common salt, thoroughly dried, is then thrown or sprinkled onto the incandescent fuel bed in a quantity depending entirely on the size of the furnace. In the case of a house heating furnace, one pound at a time is ample, in the case of a large power plant boiler, four or five scoops full may be required. The dampers are kept open so as to maintain the furnace temperature and the salt is allowed to remain until the fumes have entirely disappeared.

Immediately upon charging the salt, the furnace becomes filled with dense white fumes which may require as much as half an hour to entirely disappear. If results are not secured on the first application, it should be repeated as many times as necessary.

Once the heating surface is thoroughly cleaned a small application every few days is usually sufficient to keep it so.

Everyone using soft coal is urged by the State Fire Marshal to use this remarkably simple and cheap process for getting rid of the soot, cleaning and heating surfaces of boilers, thus saving large amounts of coal, preventing fires from chimneys and generally conserving all along the line of heating and the production of power.

THE DANGERS OF KEROSENE.

A Little Horse Sense in the Home Will Avert Accidents and Deaths.

Figures given out by H. H. Friedley, Fire Marshal of Indiana, show that in 1918 fifty-two persons were killed and seventy-eight seriously injured in his State from the effects of burns brought about by the

careless use of gasoline and coal oil. The statistics show that the great majority of the deaths and injuries were due to the use of coal oil in starting or hurrying up fires in stoves, and that many of these accidents happen in the early morning hours during the preparation of the morning meal. It also generally happens that when these explosions do occur in the early morning, some members of the family, and more often the children, are still in bed asleep. Usually by the time the alarm is given, the rapid sweep of the flames has made escape impossible, and the lives of innocent victims are lost.

Possibly the most terrible, as well as one of the most unusual accidents that has ever occurred in Indiana through the use of coal oil in starting fires, took place at the little town of Fayette, Boone County, November 21. Two separate explosions within the short space of thirty minutes figured in this accident. The first explosion caused by the use of coal oil in starting a fire in a heating stove, inflicted serious burns not only upon the man who was building the fire, but burned to death two small children who were asleep in the same room, as well as badly burning the mother of the children. The man and his wife, both in a critical condition, were taken to the home of a neighbor for care. The neighbor-woman, wishing to hurry up her fire to make the room comfortable, poured some coal oil upon the fire. An explosion occurred, and she was completely enveloped in flames. Another neighbor succeeded in smothering the flames which were consuming her clothing, while the efforts of others were directed toward getting the victims of the first explosion out of the house. As a result of these two explosions, four were burned to death, another frightfully injured, and two or three slightly injured.

THESE ACCIDENTS ARE NOT LIKELY TO OCCUR IF THE FOLLOWING ADVICE IS TAKEN: TO PREVENT FIRES AND PROTECT LIVES—NEVER USE KEROSENE TO START A FIRE. NEVER USE GASOLINE AND KEROSENE STOVES EXCEPT WITH THE GREATEST CARE. NEVER USE GLASS BOWLS FOR KEROSENE LAMPS. NEVER KEEP GASOLINE EXCEPT IN CLOSED SAFETY CONTAINERS. NEVER USE GASOLINE OR COAL OIL AT NIGHT NOR WHERE THE FUMES OF THE GASOLINE CAN REACH AN OPEN FLAME. NEVER USE GASOLINE EXCEPT WITH THE GRATEST POSSIBLE CARE!

DOES FIRE PREVENTION WORK?

The experience of the city of Cincinnati, Ohio, for eight days, from April 12th to April 20th, 1919, in an object lesson to the entire Nation.

The Cincinnati Fire Department went on a strike on April 8th and the city was without adequate or experienced fire fighters. Volunteers were enlisted and every effort was made to protect the city. Word was sent broadcast to every merchant, manufacturer and property owner within the city that extraordinary precautions must be taken to prevent fires as the city might be powerless to contend with a large conflagration. The result of this fire prevention propaganda was startling. In the eight days Cincinnati only had a $500.00 fire loss as compared with $20,676.00 during the same week in 1918 and a daily average fire loss of more than $2,000.00 on those days when every body was not watchful and careful. This experience simply illustrates that the great majority of fires are preventable with ordinary care, and that a campaign of fire prevention works wonders when the public are fully aroused to the necessity for it.

A similar experience to that of the city of Cincinnati might be a good thing for many other cities and communities in our country and State. Let the campaign of fire prevention be carried on more vigorously each year until the public fully appreciate its necessity and possibilities.

EVADED RESPONSIBILITIES.

When all that is possible has been said and done with respect to the progress of fire prevention—i. e., fire control before the fact—it is found to be true that business as a rule consistently evades its responsibilities by shouldering them on to the municipality. This means that instead of fire prevention we have fire protection, with an increasing burden of cost for equipment and personnel, and results that fall short of our necessity, and even of our reasonable hope.

Municipal fire prevention bureaus can only order hazards abated or installations of fire control equipment made, in consonance with such imperfect laws and ordinances as exist; and in event of failure to comply, resort to the doubtful process of prosecution. Many of the laws are so drawn that the authority of the bureaus is limited virtually to the making of recommendations, and, unless much tact is used, much patience exercised, by the inspectors, little of real value is accomplished. The rating bureaus have the advantage that they can appeal to the owners cupidity in many instances by granting reductions in the insurance rate, but even here, except in cases of extreme peril, if the saving will not return the cost of the improvement in a year or two, it usually is not made. And there are many instances in which no credit in the rate is allowed. A plant, equipped with automatic sprinklers, may be in serious need of chemical extinguishers as well; but as there is no additional credit for their installation they probably will not go in unless the tact of the inspector or bureau manager is potent enough to overcome the reluctance of the owner to spend the money.

This brings us to the necessity of sweeping legislative enactments, embracing a comprehensive code of fire control, including both fire protection equipment and inspection, and public control of both through the state or the municipality. In other words, if persuasion will not bring about nullification of the hazards produced by intensified and commercial activities, then owners should be compelled to install such equipment—automatic sprinklers, chemical extinguishers, standpipe and hose, etc.—as the protection of the public against the hazards of their plant demands, and to obey the laws, rules and orders promulgated from time to time to assure their constant maintenance at the highest possible operative efficiency.

The whole people are being heavily taxed for failure of the business men to meet their fire prevention and protection obligations.—Extracts from Fire Protection.

DWELLING HOUSES.

Suggestion in Case of Fire.

1. First of all and most important, do not lose your self-control. Decide what you will do and how you will do it, before you attempt it.

2. The moment a fire is discovered have someone immediately summon outside assistance; always call the Fire Department first if you have one. If the fire is not already hopelessly beyond control, use every extinguishing device at hand, and do not give up the fight until absolutely compelled to do so. It is safest to call the Fire Department when one is available, even though you may have extinguished a fire without its aid. There is always danger of some fire escaping attention and breaking out at another place when you are off guard. This is especially true when the house construction has been on fire. Better have an expert examination.

3. Permit no door to be opened into a room where a fire is burning except the one necessary to fight through. Never run from a fire and leave a door open behind you. The less air a fire has the slower it will burn.

4. Do not attempt to extinguish flaming window curtains or clothing with the bare hands; smother such a blaze with a blanket, small rug, coat, or anything available which will protect the hands.

Women should never attempt to stamp out a blaze; there is great danger of their clothing catching fire, and thereby losing life.

5. If exposed to smoke or flame, wet a towel, handkerchief or piece of clothing and stuff it into the mouth. Breathe through it instead of the nose. It will keep smoke and heat from the lungs, and the moisture will be helpful. Do not scream or inhale deeply if in flame or smoke. A deep breath may cause unconsciousness or even death. More people lose their lives in a fire by suffocation than by actual burning.

6. Remember that smoke and heat arise, and the nearer the floor you get the better the air. If necessary to cross a smoke filled room bend low, or go on hands and knees, and follow the wall around to the desired doorway. The air is better along the wall, and the wall serves as a guide, thus preventing confusion and loss of bearings. Always breathe at an open window if possible, and keep near it if awaiting help.

7. Never jump unless the blaze is scorching, and not then if firemen are near. Wait a minute longer until they can spread a life net or reach you by ladder. Remember that a jump to the pavement or the ground from any story above the second is almost certain death.

8. If no help is at hand and you must get out of a window, throw a bed mattress out, if one is available, and try and drop on that. Better still, make a life line by ripping bed sheets through the middle, join the ends by square knots carefully tied to prevent slipping, and add to the length by tying in by the corners any blankets that may be available. Pull out the side bar of the bed, support it on a couple of chairs in front of the window, and at the middle tie one end of the line; or fasten it to a large table leg or a large chair so arranged as not to be pulled through the window. If there is danger of this, pull down the window sash from the outside before you slide down the line. Should there be flame issuing from a window below through which you must pass, wrap a blanket or a coat around your head, and do not drop the line until the instant you are ready to descend, otherwise it may burn and drop you. If possible to wet the line it would be a great help. Even though such a line does not reach entirely to the ground it may reduce the distance to a safe drop.

9. If a rope is available use it in the same manner, but never attempt to slide down it without protecting the hands with a towel or piece of bedding or clothing. Grasp the rope firmly in both hands, twist it once around the right leg, then place it between the feet, keeping them close together and slide slowly.

10. Familiarize each member of the family with the operation of the nearest fire alarm box. If you are not sure how it operates, make it your business to find out. Many a fire has been unnecessarily disastrous because the person supposed to send the alarm failed to do so through ignorance. After operating a fire alarm, stay near it to direct the firemen to the fire. Every minute is significant.

11. Have the telephone number of the nearest fire station on a special card at your telephone. In using a telephone for a fire alarm do not fail to give the name of the street, the house number and the nearest corner, or names of streets or roads between which the house is located, or other means of identifying the building where the fire is. Excited persons frequently make such calls and give no information except to say the house is on fire, or else give the telephone number. Such calls are useless. Be sure you make the location of the house clear before you leave the telephone.—Fire Engineer.

MONTHLY BULLETIN

"MAKE PENNSYLVANIA FIREPROOF"

Department

OF

STATE POLICE

OF

Pennsylvania

BUREAU OF FIRE PROTECTION

OFFICE—ROOM 166
Capitol Building, Harrisburg, Pa.
HOWARD E. BUTZ, Chief of Bureau

VOL. VI AUGUST, 1919 No. 11

The Act of June 3, 1911, establishing the office of the State Fire Marshal, has been repealed, and the duties and powers heretofore exercised by same have been conferred upon a BUREAU OF FIRE PROTECTION under the DEPARTMENT OF STATE POLICE, effective as of July 1, 1919.

The reorganization affected thereby will afford a material enlargement in the work of fire prevention, and we respectfully solicit the continuance of your valuable cooperation in the development of this service.

Vol. VI No. 41

Monthly Bulletin

Department

OF

STATE POLICE

OF

Pennsylvania

BUREAU OF FIRE PROTECTION

HOWARD E. BUTZ, Chief of the Bureau

BULLETIN OF INFORMATION FOR THE PUBLIC

AUGUST, 1919

HARRISBURG, PENNA.:
1919

DEPARTMENT OF STATE POLICE

BUREAU OF FIRE PROTECTION

An enactment of Legislature was approved June 30, 1919, conferring the duties and powers heretofore exercised by the State Fire Marshal upon a Bureau of Fire Protection established in the Department of State Police. A general resume of the activities of the former State Fire Marshal Department will afford a basic illustration of the important work assigned to this Bureau.

The act creating the office of the State Fire Marshal of Pennsylvania was approved June 3, 1911, and organization and operation of the same was commenced on June 1, 1912. From that time until June 30, 1919, the Department, through its assistants in the civic desire of the State, received and recorded in accordance with the act the following number of fires, which occurred throughout the State, exclusive of the cities of Philadelphia and Pittsburgh, in which the jurisdiction of the State Fire Marshal Department was not operative:

Year	Number of Fires
1912-1913,	7,707
1914,	14,534
1915,	14,750
1916,	15,728
1917,	12,721
1918,	12,608
1919 (6 mos.),	4,500

Inspection of buildings and the remedying of conditions, either by repair, demolition of buildings or removal of fire hazards, was an important portion of the service rendered by the Fire Marshal Department, in the interest of fire prevention, and particularly was this so during the war period, when especial attention was devoted to safe-guarding the manufactories and storage warehouses in the interest of conservation of food supplies and essentials. The following table shows the number of inspections made since 1912 in the elimination of fire hazards:

Year	Number of Inspections
1912-1913,	6,937
1914,	4,672
1915,	2,542
1916,	3,022
1917,	7,079
1918,	6,052
1919 (6 mos.),	2,156

Investigations of reported incendiary fires, and the prosecution of the incendiary, was a part of the duty of the State Fire Marshal Department, requiring considerable time, attention, and expense, owing to the nature of the crime, which is one of the most difficult to trace, by reason of the evidence when obtained being largely of circumstantial character, thereby making it especially hard to obtain conviction. The following indicates the results obtained in the 1833 investigations conducted:

Year.	Investigations.	Convictions.	Acquittals.	Nolle Prossed, Left Jurisdiction, Etc.
1912-1913,	181	36	13	13
1914,	293	57	19	11
1915,	194	53	22	8
1916,	330	45	21	19
1917,	334	61	14	17
1918,	304	50	9	4
1919 (6 months),	197	33	10	1

In connection with the work outlined above, educational features were given careful study and attention in the endeavor to reduce the serious aspect and drain from the unwarranted and irrecoverable waste occasioned by preventable fires due to carelessness, indifference, and neglect, to regard with reasonable attention the precautions necessary to prevent fire. In this effort approximately 900,000 copies of bulletins and other literature were distributed since the organization of the Department. Numerous meetings of associations and organizations were attended and addresses made suggesting methods as to prevention and protection, along constructive and progressive lines, and it is the purpose in the near future to enlarge upon the work which will be a great advancement in the fire prevention movement.

The greatest handicap experienced by the Department in its effort to accomplish more effective work in the prevention of fires was the inadequacy of its field force to properly and thoroughly inspect and direct corrective measures for the remedying of conditions, responsible for the unwarranted fire loss in the State within the jurisdiction of the act, comprising 44,268 square miles.

With the view of increased usefulness and the rendering of more effective service to the citizens of the State, and concentrating necessary criminal investigations of all departments under the supervision of an existing trained organization, an enactment of the Legislature was provided, conferring the powers heretofore exercised by the State Fire Marshal Department upon a Bureau of Fire Protection in the Department of State Police. The transference does not in any way detract from the usefulness of the work formerly committed to the State Fire Marshal Department, but in acquiring the services of the members of the State Police, its effect constitutes embodying the activities of two departments within a combined jurisdiction, and thereby permits a more extensive service on an economic basis.

IDEALS.

The discovery of America was the culmination of an ideal that the world was round. Since its discovery and settlement as a free government it has become the ideal country of the whole world, and has become the home of the oppressed from many other countries.

The landing of the Pilgrim Fathers on the barren shores of Massachusetts in the winter of 1620 was the result of an ideal, "Religious Freedom," and was directly responsible for another ideal—"That men had the right to make their own laws, appoint their own officers," resulting in firmly establishing and developing this, the greatest of Republics.

William Penn in our own State advanced and carried out the ideal, 'That the strong should care for the weak," and encouraged his followers in the selection of their own representatives. He also taught that great doctrine which has become the foundation upon which all free governments are erected,—"All men are born free and equal."

When England sought to destroy the commerce of the original thirteen colonies another ideal came to light, "That man possessed malienable rights," and "That taxation without representation is tyrannical," and resulted in the Declaration of Independence, which was the consummation of an ideal born in the years of struggle unaided by the mother country against the Indians and disease. After independence was won, delegates from the thirteen original States were called into a convention and formulated the Constitution which united all the States in a Federal Union, and evolved a new ideal, that of "Government of the people, by the people and for the people."

As a result of the war between the North and the South, 1861-65, another ideal was proclaimed, that of "Universal Freedom."

The ideal "That the strong should care for the weak" was again successfully demonstrated in 1898, when this country assumed the cause of down-trodden Cuba, and substantially established it among the rank of countries with the right to make its own laws, and select its own officials.

Educational advancement in science, mechanics and industries which has progressed beyond the possible expectation of man and is still in the primary class of progression had its origin in ideals which were considered but mutual diversions or dreams by our forefathers; no matter in which direction the mind twines in the endeavor to fathom the thought of men in the conception and producing the many wonderful and useful inventions that have astonished the world with their utility.

Ideals have been the basic fundamental responsible for the results. Ideals are not confined to the few, but enter into every walk of life; all men and women are endowed with them to a greater or less degree, and are the guide directing towards the realization of ambition.

Possession is one of the most potent ideals of man and the obtaining and maintaining of home, the strongest incentive for the active advancement of the beneficial results of labor, for if it was not for the love of home and family there would be no reason for labor, and without labor the progressiveness of the world, emanating therefrom, would cease to be a fit place in which to live.

Possession does not mean cessation of ideals, but is productive of others, and is the little monitor that dictates advancement to better things, a larger home, perhaps better appointments. higher education of children and many other things which enter into life as a result of ideals and example. When ambition seems satisfied and attainment fulfilled, there is always danger of an enemy who is ever present, entering into the affairs of life and destroying all that ideals and ambitions have accomplished, and causing suffering, ruination and discouragement. This enemy is "Carelessness" more powerful than the combined armies of the world; more deadly than bullets: and has wrecked more homes than the mightiest of siege guns: steals in the United States more than $300,000,000 each year; spares no one and finds victims among the rich and poor alike; the young; the old; the strong; the weak; widows and orphans; massacres thousands upon thousands of wage earners annually; carries most trouble silently, regardless of warnings which go unheeded, found everywhere in the home, on the street; in the factory; at railroad crossings and on the sea; brings sickness, degradation and death and is man's worst enemy. Carelessness is responsible for the many woes suffered by humanity, directly responsible for at least sixty-five per cent of the fire losses occurring in this country. The following of ideals has made the Nation what it is, the greatest on earth, both in wealth and in carelessness. We brag of thrift, and yet, burn up property, value annually that amounts to more than the total production of gold in the United States and its possessions in two and a half years.

Everyone shares in the responsibility for fire waste, and in the loss which is due to the national habit of carelessness, and not until its elimination by change of habits, and the supplementing advice by some really constructive work for the prevention of fires, can it be expected that a change for betterment will be accomplished.

At no period in the history of the country has there been a more urgent need of retrenchment, the enormous sums wasted through fire losses, caused primarily by carelessness, amounting in 1918 to approximately $290,000,000 or $2.63 per capita, all waste with no recovery. This wastage, combined with the high cost of living, taxes upon taxes to meet requirements of National and State Government and to pay interest on the $22,000,000,000 required for the conduct

of the war, makes it imperative that CARELESSNESS must cease and preventive measures be adopted to put a stop to the National disgrace and the destruction of resources. Ideal conditions can be attained if everybody will do his part in helping in the prevention of fires. Let a new National Ideal be adopted, to be known as the Fireless Fireman, and carried out by committees to be organized in every community, by Chambers of Commerce, Boards of Trade and every other live civic association for the purpose of preventing fires, by active interest and work in the direction of removal of the causes of fires, which in the majority of cases come from ignorance and can be overcome by prompt and thorough inspection of premises and the removal of fire hazards, by educating those whose thoughtlessness is responsible to a large degree for loss by fire, which is increasing annually, notwithstanding, the fact that it is adding to taxation, which already overburdens the country. This is a spendthrift and a wastful Nation, which inspite of wastefulness has prospered and grown on account of our resources and National wealth and it is time to realize that negligence and continued carelessness demand corrective measures be taken to conserve the enormous wealth wasted, by making it harder to start fires and more difficult for them to spread by reason of the public's acivity in the removal of the cause of fires, by making regular inspections of all premises, removal of fire hazards and constant cleanliness on the part of individuals and special committees selected to carry on the work of preventing fires. It can be accomplished by constant application, education and enlisting in the ranks of the Fireless Firemen's Association, the culmination of an ideal, beneficial to mankind and conservative of resources.

THE BOY SCOUTS AS FIRE PREVENTERS.

The alarm clock has never been invented that will wake up a boy, and the boy has never been invented who doesn't wake up at the first clap of a fire bell. If every boy when he grows up should become what he aspires to be when he is twelve or fourteen, all occupations except fire-fighting would have to be filled by women.

And yet of all the infernal nuisances around a fire the average boy is in a class by himself. This is especially true in country towns and small cities. In the days when they used to drag the fire engine to the blaze by man-power attached to thirty-foot rope shafts, at least one boy was bound to get a death hold on the rope. He was under foot while the hose was being laid; he was in the way when the rescuing party started for the red doorway; he invariably made it necessary for a chasing squad to be organized before the fire company could really do its duty at all points.

And yet nobody seemed to get the idea of training and directing that really valuable instinct for useful service—until the Boy Scout movement got under way.

It is true that there were junior organizations that togged up in firemen's uniforms and had a miniature racing hose-cart. They went around with their pet companies, attended firemen's conventions and took part in races and drills—but that is beside the mark. Real boy firemen have come into existence only as a consequence of the training for civic service that boys get in the Boy Scout movement.

This fact is worth wider consideration than it has received by the American public. It deserves wider consideration both by fire fighters and fire insurers the country over. It is entitled to discussion in this issue of Safeguarding America Against Fire.

First, it is necessary to get the background of this feature of Scouting. The whole movement begins by giving the boy a code of conduct based on laws that have been handed down by soldiers of the common good through the centuries. The Knights of King Arthur are mentioned particularly in connection with the twelve points of the Scout Law, among which are these:

"A scout is helpful. He must be prepared at any time to save life, help injured persons, and share the home duties. He must do at least one good turn to somebody every day."

"A scout is brave. He has the courage to face danger in spite of fear."

"A scout is trustworthy. A scout's honor is to be trusted. If he were to violate his honor by telling a lie, or by cheating, or by not doing exactly a given task, when trusted on his honor, he may be directed to hand over his scout badge."

These, however, are exactly the qualities that should be possessed by every fireman. By the Oath in which every Scout promises on his honor to do his best to keep this Law, he also promises "to help other people at all times" and to keep himself "physically strong, mentally awake and morally straight." Such resolutions as these certainly make excellent groundwork for any man who has to do the arduous tasks that fall to the fireman.

But this article will not attenmpt to show that Scouting is training the next generation of fire fighters. Nothing of the sort. It is going to show how Scouting is building up one of the finest fire preventive forces that the country possesses. And it takes many of the same qualities to make a fire preventer as it does to make a fire fighter.

But first, another splash or two of color on that background. The Boy Scout is in training for good citizenship. That is the goal of the movement. By a multitude of outdoor activities the Scout learns how to do things for himself as well as for others; how to take care of himself under all emergencies, particularly in the open; how to do such things as camping, signaling, map making, following trails, and much besides. He learns all these things as a part of a big game which he plays during his leisure time. In the process the Boy Scout acquires much first-hand information on many subjects, and develops ability in a number of directions, so that he is becoming all the time a man of parts.

But most of all he is learning civics in a way that it cannot possibly be taught in the schools. By being a part of the community life, and performing certain functions as a member of the community, the Boy Scout acquires some insight into the problems of municipal government, together with no little ambition to help make his town or city an ideal place in which to live.

Every now and then one of the smaller cities will turn over the entire city government to Boy Scouts for a brief portion of the day, partly as a reward for things they have done and partly as training. Scouts are constantly being called upon to help conduct clean-up campaigns, to distribute good-health literature, to take a census of the trees of the town, to assist in the policing of parades, and in similar public service.

Therefore, it is natural that they should also be given a chance to learn fire fighting. And the groundwork of their instruction in fire fighting is a knowledge of the annual economic waste by fire in the United States, the largest part of which they know to be preventable.

A CHANGED VIEWPOINT.

It is stated in the Scout Handbook for Boys that "it is the duty of a scout to know how to prevent fires." He is taught to recognize the danger of fire which results from many careless habits. In short, his whole point of view respecting fires is changed. Formerly fires were considered by boys to be providential entertainments. Every burst of flame drew forth the delighted exclamation, "Gee, ain't that great!" Today, that sort of thing is passing away.

Instead of being nuisances at fires, Scouts now-a-days are assuming responsibility in the matter of preventing fires, particularly in their homes, where they constantly remind their families of the need for care with matches, hot ashes, oil lamps, flimsy curtains near gas jets, and all the rest of the familiar fire causes.

This is great work for our boys. It is great work for the community and undoubtedly it has already had its effect upon the rational fire loss.

This same alertness to stop a fire rather than to watch one goes with the boy to his school. It is with him in church, in the movie picture theatre, in camp, or wherever else he may be. The danger of fire in any place diminishes in direct ratio to the approach of a Boy Scout who has gotten as far as fire preventive work in his training. Only a year or so ago Commissioner Thomas J. Drennan of New York City had this to say of their effectiveness: "I have known of the training of the Boy Scouts along the lines of fire prevention for a long time, and I thoroughly believe in their ability to be of decided value to the city in cutting down fire damage by their watchfulness." The Commissioner decided to award a badge to Boy Scouts who passed a test of twelve questions in fire prevention. Here are the questions:

"1. What would you do if you were in a theatre and someone called 'Fire'?

"2. Mention five substances dangerous to keep in a house.

"3. How would you protect the woodwork behind a stove?

"4. Why is celluloid dangerous?

"5. Is it safe to throw water on burning oil?

"6. What precautions must be taken in using kerosene, gasoline, benzine?

"7. Why must you keep dumbwaiter doors closed?

"8. How would you store matches?

"9. Give the requirements for a perfectly safe gas bracket? How would you locate a gas leak?

"10. What precautions are to be taken in running electric wires through partitions?

"11. How would you turn in a fire alarm if no box was convenient?

"12. How would you keep paper safely? What would you do with rubbish?"

In Newark, New Jersey, a fire captain has been especially designated to instruct Scouts in fire prevention and in fire fighting, and it has been found that the boys respond to the idea with all the fervor that once marked their eagerness to get within sight of a burning building.

Here is one of the ways in which Scouts are made to understand the subject:

"Twelve boys stand up!" commands the Superintendent of the Bureau of Combustibles and Fire Risks, addressing the Newark Scouts, and twelve boys rise. "Just that number of children were burned to death by bonfires last year in Newark," says the captain.

"Now thirty-six stand up," he commands, and then adds, "That number have been burned to death in fires of different natures in one year in this city."

Such object lessons fill the boy with the spirit of fire prevention, and make him want to stamp out every smoldering cigarette stub he may see.

In a similar spirit work is going on all over the country. It seems a pity that an even larger proportion of our boys are not enrolled in an organization that gives training of this kind as part of a big play game. That's why the President of the United States saw the need of extending the work of the Boy Scouts of America by means of a proclamation which called upon the country to observe June 8-14 as Boy Scout Week, solely that men and women everywhere might be made interested in the organization and become its active supporters. Certainly if it did nothing more than make every boy a fire preventer, the Boy Scout movement would be an asset to the nation.

STUDYING FIREMANSHIP.

Just in passing, it may be well to call attention to the fact that firemanship is among the subjects which Scouts can take up as a sort of elective course in Scouting.

"To obtain merit for Firemanship a Scout must

"1. Know how to turn in an alarm of fire.

"2. Know how to enter burning buildings.

"3. Know how to prevent panics and the spread of fire.

"4. Understand the use of hose—unrolling, joining-up, connecting to hydrant, use of nozzle, etc.

"5. Understand the use of escapes, ladders, and chutes, and know the location of exits in buildings which he frequents.

"6. Know how to improvise ropes and nets.

"7. Explain what to do in case of panic, understand the fireman's lift and drag, and how to work in fumes.

"8. Understand the use of fire extinguishers; how to rescue animals; how to save property; how to organize a bucket brigade; and how to aid the police in keeping back crowds."

The motto of the Boy Scouts of America is "Be Prepared." It is impossible to tell where or when a fire is going to start. But if every boy of Scout age were enrolled in the movement fewer fires would get under headway and life and property would be safer throughout the nation.—National Board of Fire Underwriters (Safeguarding America Against Fire).

Similar conditions exist in all parts of the State possibly not deliberately permitted, but through ignorance or carelessness. Civic pride alone should invite the remedying of such conditions in the interest of Prevention of Fires and reduction of fire losses, which increases taxation.

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NUMBER OF FIRES REPORTED SHOWING VALUE OF PROPERTY LOSS AND INSURANCE.

DURING THE MONTH OF MARCH, 1919.

(Exclusive of Philadelphia and Pittsburgh).

Counties.	Number of Fires.	Estimated Value.	Estimated Loss.	Amount of Insurance.
Adams,	9	$13,213	$3,478	$9,695
Allegheny,	85	431,288	195,430	683,430
Armstrong,	12	31,800	1,700	16,400
Beaver,	7	55,000	23,577	32,450
Bedford,	8	8,089	2,980	5,725
Berks,	40	91,448	6,337	53,975
Blair,	38	149,380	33,578	49,750
Bradford,	5	9,316	7,084	5,700
Bucks,	9	57,552	7,843	46,115
Butler,	12	34,800	16,637	23,500
Cambria,	24	67,576	15,243	44,450
Cameron,	6	59,100	47,199	13,600
Carbon,	3	4,200	1,335	3,000
Centre,	13	159,374	73,853	86,524
Chester,	19	124,253	11,583	82,615
Clarion,	4	4,630	2,187	1,960
Clearfield,	15	47,650	1,383	29,025
Clinton,	8	35,400	17,317	27,100
Crawford,	20	119,200	1,301	25,650
Cumberland,	13	74,821	17,757	32,030
Dauphin,	17	214,950	107,713	142,250
Delaware,	16	244,300	8,345	113,700
Elk,	4	13,539	1,642	8,200
Erie,	61	898,769	23,342	1,693,075
Fayette,	15	252,945	62,502	127,950
Forest,	3	7,154	7,154	2,100
Franklin,	2	475	240	200
Fulton,	4	5,460	3,315	4,300
Huntingdon,	5	10,250	3,377	8,100
Indiana,	7	14,700	816	7,500
Jefferson,	7	407,600	48,711	415,600
Juniata,	2	11,200	1,327	5,400
Lackawanna,	58	319,439	99,115	164,250
Lancaster,	17	49,570	21,265	32,440
Lawrence,	13	17,150	960	12,700
Lebanon,	9	67,000	2,191	38,675
Lehigh,	6	22,900	195	12,850
Luzerne,	49	687,557	298,285	391,179
Lycoming,	14	139,744	6,565	47,975
McKean,	10	30,297	17,583	26,800
Mercer,	30	165,650	87,193	45,220
Mifflin,	5	6,069	5,681	2,700
Monroe,	12	60,300	56,825	24,000
Montgomery,	23	724,630	59,737	626,550
Montour,	2	3,600	105	1,000
Northampton,	16	103,906	10,615	82,450
Northumberland,	17	33,025	9,729	11,250
Potter,	7	12,950	3,838	8,650
Schuylkill,	20	96,112	20,721	43,100
Snyder,	3	9,630	4,130	3,730
Somerset,	31	475,360	364,535	250,057
Susquehanna,	11	19,803	7,137	11,148
Tioga,	7	16,600	941	7,710
Venango,	12	21,863	6,035	12,025
Warren,	8	17,960	12,157	9,900
Washington,	48	79,360	123,780	82,850
Wayne,	6	8,100	3,496	3,550
Westmoreland,	26	139,426	45,554	101,450
Wyoming,	1	500	75	------
York,	22	41,101	9,289	28,115
Total,	979	$7,049,471	$2,042,853	$5,846,893

CLASS OF STRUCTURES DESTROYED OR DAMAGED BY FIRE.

DURING THE MONTH OF MARCH, 1919.

(Exclusive of Philadelphia and Pittsburgh).

Structures.	Number of Fires.	Loss.
Amusement and pleasure resorts,	1	$1,800
Apartment houses, boarding houses, dwellings,	476	142,265
Automobiles,	9	1,715
Bank and office buildings,	4	895
Barns and stables (city and town),	17	60,529
Bridges,	3	62,615
Chapels and churches,	4	125,830
Club, lodge and society rooms,	3	78,383
Cottages, club houses and season homes,	3	2,118
ELECTRIC RAILWAY PROPERTY:		
Stations,	1	15
FARM PROPERTY:		
Barns and stables,	41	81,528
Dwellings,	153	116,885
Outbuildings,	19	6,037
Garages, private,	6	3,950
Garages, public,	8	10,811
Hotels,	16	73,064
Livery and sale stables,	2	386
MANUFACTURING AND INDUSTRIAL ESTABLISHMENTS:		
Ammunition, high explosives and shells,	1	20,000
Bakeries,	1	7,000
Blacksmith shops,	1	900
Carpenter shops,	2	85,080
Cement, concrete and stone,	1	55,000
Cigars and cigarettes,	1	1,100
Coal and wood yards,	2	450
Confectionery,	1	3,157
Electric light and power plants,	1	8,000
Feed and flour,	1	17,000
Glass,	2	117,863
Iron and steel, blast furnaces, foundries, rolling mills,	2	250
Lime kilns,	2	12,200
Lumber yards,	3	79,000
Machine and repair shops, variety,	2	14,005
Metal, miscellaneous,	3	2,650
Miscellaneous,	2	210
Paints, varnishes, oils,	1	750
Paper and pulp,	1	1,100
Planing mills,	2	25,756
Rubber goods,	1	85
Saw mills,	3	19,652
Smoke houses,	2	120
Textile,	2	57,250
MERCANTILE ESTABLISHMENTS:		
Agricultural implements,	1	2,451
Boots and shoes,	2	8,300
Department and general stores,	6	6,047
Drugs and medicines,	2	17,624
Electrical and gas fixtures and supplies,	2	65
General stores (rural),	4	44,200
Groceries,	7	10,603
Hardware,	1	1,200
Leather goods and harness,	1	75
Liquors and wines,	1	5
Meats,	4	1,550
Men's furnishings,	4	5,044

CLASS OF STRUCTURES DESTROYED OR DAMAGED BY FIRE.

DURING THE MONTH OF MARCH, 1919.

(Exclusive of Philadelphia and Pittsburgh).

Structures.	Number of Fires.	Loss.
Miscellaneous with dwelling occupancy,	70	360,993
Musical instruments and sewing machines,	1	458
Restaurants,	1	3,500
Tobacco and cigars,	2	42,850
Miscellaneous,	23	37,031
Miscellaneous,	2	803
Outbuildings (city and town),	5	608
RAILROAD (STEAM) PROPERTY:		
Freight rolling equipment,	20	112,650
Passenger stations,	1	4,000
Shops,	3	74,000
Miscellaneous,	1	75
Road houses, saloons, and taverns,	2	541
Schools, public,	1	10,000
Theatres and motion picture houses,	1	53
WAREHOUSES AND STORAGE:		
General storage,	4	1,245
Ice,	1	75
Total,	979	$2,042,856

MATERIALS USED IN CONSTRUCTION OF BUILDINGS DESTROYED OR DAMAGED BY FIRE.

DURING THE MONTH OF MARCH, 1919.

(Exclusive of Philadelphia and Pittsburgh).

Material.	Number of Fires.	Loss.
Brick,	189	$366,263
Brick and stone,	1	11,000
Concrete,	5	1,213
Stone,	16	94,572
Wood and frame,	724	1,614,825
Wood with brick or stone,	21	222,577
Unclassified,	14	2,920
Iron covered (galvanized),	1	100
Not reported,	8	9,433
Total,	979	$2,042,853

CAUSE OF FIRE AND LOSS INCURRED.

DURING THE MONTH OF MARCH, 1919.

(Exclusive of Philadelphia and Pittsburgh).

Cause.	Number of Fires.	Loss.
Adjoining fires,	103	$435,762
Ashes (hot), careless disposal,	5	1,602
Backfire,	6	1,420
Candle carelessness,	6	2,663
Chimney flues, stacks, defective and overheated,	100	41,068
Cigars and cigarettes (lighted), carelessly discarded,	11	4,003
Clothing and curtains exposed to contact with stove, heating appliances and unprotected lights,	41	7,127
Coals (hot), falling from stove, furnace or fireplace,	9	4,268
Cooking appliances (electric, gas, alcohol), carelessly used,	1	500
Electric, flat and gas iron carelessness,	2	454
Electric wiring, defective,	32	110,580
EXPLOSIONS:		
Acetylene,	1	3,000
Alcohol, gas and oil lamps,	8	4,015
Alcohol, gas and oil stoves and heaters,	19	3,835
Chemicals and acids,	1	200
Coal oil and kerosene, starting fires and filling lamps and lanterns,	4	780
Gas leak,	6	950
Gasoline, benzine, naphtha, careless use and cleaning with exposed to fire or unprotected lights,	5	11,325
Oils (inflammable), ignition,	1	5,225
Powder and powder dust,	1	20,000
Water back,	2	605
Field and forest fires,	3	3,527
Fireplace, defective or overheated,	9	489
Flat irons and bricks (heated), used for warming purpose in bed,	2	95
Furnaces, heaters, stoves and their pipes, defective or overheated,	45	22,672
Fumigation,	1	10
Grease ignition on stove,	1	123
Incendiary,	17	35,803
Lamps and lanterns, overturned,	4	1,701
Lightning (buildings rodded),	1	12
Lime kiln operation,	2	12,200
Matches, careless use and keeping,	49	119,442
Matches, children,	37	7,363
Matches (lighted), carelessly discarded,	11	358
Metals (hot), asphalt, tar, pitch, wax, metal, etc., ignition of,	2	300
Miscellaneous,	12	381
Smoking, carelessness,	3	95
Smoking in bed,	6	188
Smoking meats,	9	747
SPARKS:		
Chimneys, flues, stacks, cupola (exposure, adjoining fires),	118	52,446
Fireplace,	1	127
Locomotive,	15	4,150
Motors,	1	117,638
Running machinery (friction),	1	200
Rubbish and brush burning,	18	6,426
Stationary Engines, tractors, etc.,	2	5,710
SPONTANEOUS COMBUSTION,	3	8,765
Stove polish applied to hot stove,	1	8
Torch carelessness,	1	7,000
Tramps,	1	1,100
Undetermined,	227	963,791
Woodwork and furniture exposed to contact with stove, heating appliances and unprotected lights,	9	4,476
Total,	979	$2,042,856

NUMBER OF INSPECTIONS MADE AND ORDERS ISSUED FOR REMOVAL OR REMEDYING OF FIRE HAZARDS.

DURING THE MONTH OF JUNE, 1919.

Buildings Inspected.	Number of inspections.	Removal of or general repairs to dilapidated buildings.	Removal of rubbish and waste accumulation and regulating proper disposal thereof.	Place metal or asbestos protection around heat appliances or installation of other fire retardents.	Total number of orders.	Orders not necessary.
Apartment houses, boarding houses, dwellings,	5	4	2	0	6	0
Bank and office buildings,	2	0	0	0	0	2
Barns and stables (city and town),	2	2	2	0	4	0
Billiard (pool) halls and bowling alleys,	6	0	1	0	1	5
Garages, public,	9	0	1	0	1	8
Hotels,	3	0	0	0	0	3
MANUFACTURING AND INDUSTRIAL ESTABLISHMENTS:						
Automobiles and accessories,	2	0	0	0	0	2
Bakeries,	8	0	0	0	0	8
Blacksmith shops,	2	0	0	0	0	2
Cigars and cigarettes,	6	0	0	0	0	6
Cleaning and dyeing,	1	0	0	0	0	1
Clothing (men's), linens, hats, caps, gloves,	1	0	0	0	0	1
Cobblers,	12	0	0	0	0	12
Confectionery,	1	0	0	0	0	1
Distilleries,	1	0	0	0	0	1
Feed and flour,	3	0	0	0	0	3
Glass,	2	0	1	1	2	1
Hosiery and knitting,	1	0	0	0	0	1
Laundries,	4	0	0	0	0	4
Leather goods and saddlery,	1	0	0	0	0	1
Machine and repair shops, variety,	1	0	0	0	0	1
Metal, miscellaneous,	2	0	0	0	0	2
Miscellaneous,	2	0	0	0	0	2
Plumbing and tinning,	5	1	1	0	2	4
Printing establishments,	5	0	1	0	1	4
Textile,	2	0	0	0	0	2
Tobacco,	2	0	0	0	0	2
Woolen mills,	2	0	0	0	0	2
MERCANTILE ESTABLISHMENTS:						
Automobiles and accessories,	8	0	0	0	0	8
Barber shops,	8	0	0	0	0	8
Boots and shoes,	20	0	1	0	1	19
Confectionery and ice cream,	18	0	0	0	0	18
Department and general stores,	25	0	3	0	3	22
Drugs and medicines,	20	0	1	0	1	19
Electrical and gas fixtures and supplies,	2	0	0	0	0	2
Flour, feed and hay,	2	0	0	0	0	2
General stores (rural),	6	0	1	0	1	5
Groceries,	103	0	10	0	10	93
Hardware,	17	0	0	0	0	17
House furnishings,	23	0	2	0	2	21
Jewelry,	6	0	0	0	0	6
Ladies furnishings,	5	0	1	0	1	4
Leather goods and harness,	3	0	0	0	0	3

NUMBER OF INSPECTIONS MADE AND ORDERS ISSUED FOR REMOVAL OR REMEDYING OF FIRE HAZARDS.

DURING THE MONTH OF JUNE, 1919.

Buildings Inspected.	Number of inspections.	Removal of or general repairs to dilapidated buildings.	Removal of rubbish and waste accumulation and regulating proper disposal thereof.	Place metal or asbestos protection around heat appliances or installation of other fire retardents.	Total number of orders.	Orders not necessary.
Liquors and wines,	1	0	0	0	0	1
Meats,	8	0	1	0	1	7
Men's furnishings,	25	0	4	0	4	21
Millinery,	3	0	0	0	0	3
Miscellaneous with dwelling occupancy,	66	0	2	0	2	64
Notions and novelties,	5	0	0	0	0	5
Restaurants,	18	0	1	0	1	17
Stationery and wall paper,	5	0	0	0	0	5
Tailoring,	11	0	0	0	0	11
Tobacco and cigars,	15	0	0	0	0	15
Wholesale and retail groceries and fruits,	10	0	0	0	0	10
Miscellaneous,	6	0	1	0	1	5
Miscellaneous,	1	0	0	0	0	1
Motorcycles,	1	0	0	0	0	1
Outbuildings (city and town),	5	4	2	1	7	0
Telegraph and telephone exchanges,	1	0	0	0	0	1
Theatres and motion picture houses,	2	0	0	0	0	2
WAREHOUSE AND STORAGE:						
General storage,	3	1	1	0	2	2
Totals,	545	12	40	2	54	499

FIRE PREVENTION SUGGESTIONS.

"The time to fight a fire is before it happens."

RULES FOR COOKING AND CLEANING.

1. Don't leave the stove while broiling is being done.

2. Don't pour water on burning fat; use earth, sand, flour, salt, or a metal cover.

3. Never let a stove get red hot.

4. Be careful not to use stove polish on a hot stove; wait until it is cold.

5. Don't use any kind of stove polish or other cleaning mixture unless you know what is in it; buy the safe kinds.

6. Don't leave sweepings in a piece of paper; put them in the stove.

7. In handling oil or wax, use only small quantities at a time; wipe thoroughly the surfaces you have rubbed with rags, and then burn the rags.

8. Don't put ashes in wooden receptacles nor where they can possibly come in contact with wood.

RULES FOR RUBBISH.

1. Keep things tidy; don't allow rubbish to accumulate anywhere in the house or near it.

2. If you keep oily cloths, put them into a metal box or can with a cover.

3. If you learn that anyone is keeping oily rags outside of metal containers it is your duty to report it

4. Don't pile dead leaves against anything that will burn. They sometimes ignite of themselves.

5. Bury leaves; don't burn them.

6. Don't have old pieces of lumber cluttering up your basement. Have them cut up into kindlings and then piled in a proper place.

RULES FOR KEROSENE.

1. Study the lamp rules under "Lights."

2. Be sure that oil heaters and cookers do not leak and that they will not overturn.

3. Keep their burners clean and do not turn the flames too high.

4. Keep the oil can outside of the house, if possible.

5. Do not let the floor beneath the can become oil-soaked.

6. Make sure that the can does not leak nor drip.

7. Never leave oil uncovered.

8. Fill by daylight only any receptacle in which oil is to be burned.

9 Never start a coal or wood fire with oil.

RULES FOR STOVES AND FURNACES.

IN PLACING.

1. Place stoves, furnaces and pipes far enough from walls and woodwork to avoid overheating.

2. Cover the nearest wooden surfaces with sheet asbestos, sheet iron or tin; if iron or tin is used, leave an air space behind it.

3. Where stovepipes or heating pipes pass through walls, enclose the pipes in galvanized iron, double-walled, ventilated thimbles at least twelve inches wider than the diameter of the pipes.

4. Protect the floor beneath the stove with sheet metal, and have it extend forward at least twelve inches directly beneath the door to the ashpit.

5. Surround the base of the furnace with brick, stone or concrete.

6. Make sure that all pipes are free from rust, and that all joints and connections are sound and tight.

7. Fix a guard about the pipe in the attic so that nothing may be stored against it.

8. Keep all inflammable and combustible material away from stovepipes, steampipes and radiators.

IN USING.

9. Never pour kerosene into a coal or wood stove even when the fire is out.

10. Never put ashes into wooden boxes or barrels, have a strong metal can.

11. Study the drafts and dampers.

12. Do not let the stove or pipes become red hot.

13. Keep stoves, furnaces, flues and chimneys clean.

14. Inspect the chimneys and flues to be sure that they are sound.

15. Do not dry wood in an oven.

16. Do not hang wet clothing too near to a stove.

17. Keep curtains and other cloth away from stoves and pipes.

RULES FOR OPEN FIRES.

1. Don't build bonfires for fun.

2. If you must build outdoor fires, be sure that they are cold before you leave them.

3. Don't set dead trees afire. Sometimes they will burn for days.

4. Before lighting an open fire be sure that it is completely enclosed in a stout wire screen.

No matches should be used except safety matches.

Matches should be kept only in a tin or metal box.

No matches should be kept within the reach of children.

Children should not be permitted to handle matches under any circumstances.

After using a lighted cigar, be sure it is entirely extinguished before throwing it away.

Don't throw a cigarette or cigar stub where it might cause fire.

Remember it is a question whether you are not liable for damage done to your neighbors' buildings by fire caused by carelessness on your own premises.

Examine your lighting equipment occasionally.

Discard all shingle roofs; they are dangerous. The slate roof is the cheapest and the safest.

Allow no wooden cuspidor in your office, shop, mill or store.

Never go into a closet with a lighted match or candle.

Don't allow any one addicted to the use of intoxicants or who carries matches to sleep in your barn.

Don't put away new hay until it is dry and, after it is housed, examine the hay mow occasionally to be sure that there is no danger of spontaneous combustion.

Take all hay and straw from the mow by daylight and never take a lantern or lamp in the hay mow.

Keep your barns and stables as free of spider-webs as possible.

Always use globes around gas jets and never allow swinging gas brackets near curtains or dresses.

Never look for gas leaks with a match, a candle or a lamp.

Don't have your incubator or brooder in a cellar or elsewhere that might cause fire.

It is unsafe for you to keep your automobile in a barn or stable.

Don't think because you never had a fire you never can have one.

"Every boy and girl who would become a good citizen should learn to protect his community and his country against loss by fire."

Help to create a strong sentiment for fire prevention. By so doing, you will help to protect your home and the homes of your neighbors.

DANGERS OF GASOLINE ENGINES.

Numerous reports of fires are received which are caused by carelessness in use and storage of gasoline engines. One report stated that there was a gasoline engine in a building adjoining the barn. Someone started the engine to pump water and then went to breakfast. When discovered, the fire was coming through the roof of the engine house which soon set fire to the barn. Ten head of horses, five tons of hay and several bushels of grain were lost.

Undoubtedly this fire started in some way from the gasoline engine.

Wherever a gasoline engine is located in a barn or in an engine house adjoining a barn, the room housing the engine should be lined or covered with fire-resisting material in order to prevent occurrences like the one reported above.

Boxes of sawdust used as spittoons have for many years been recognized as fire hazards.

Recently the department received a report of fire in which the fire chief reporting the same stated that a box of sawdust was used as a spittoon. It is supposed that someone threw a cigar stub or lighted match into the box and that it slowly ignited the same which in turn set fire to the building.

Where the box stood a hole was burned in the floor thirty inches wide and six feet long and the fire then worked its way up the wall and into the attic of the building.

Using boxes of sawdust for this purpose is very dangerous and especially around shops or factories where oily waste or rags or oil might accidentally find its way into these boxes. Sawdust should never be used for absorbing oil where oil has been spilled as with certain kinds of oil it will ignite spontaneously within a short period. If it is desired to take up oil in this way sand should be used in place of sawdust.

Carelessness is costly.

AGAIN CARELESSNESS.

At the recent conference of the Fire Marshals' Association it was stated that 15,000 lives were lost and approximately $250,000,000 worth of property was destroyed by fire in the United States last

year. Of this amount it was stated that $60,466,054 was due to fires which were preventable, or, in other words, carelessness, which was designated as "the biggest firebug of all." Incendiaries destroyed over $8,000,000 worth of property but careless smokers and users of matches were responsible for nearly twice as much in value. This is a terrible toll taken from the citizens of this community for carelessness, and it is no credit to the United States that it leads the world in this respect. It is not an enviable record. As an illustration of what carefulness will do in the way of reducing fire losses is the fact that not one of the sixteen large army cantonments, all wooden structures, was destroyed or seriously injured by fire last year, the reason being that these were under the direct supervision of the National Board of Fire Underwriters, whose representatives saw to it that the rules relating to the use of matches and lights, etc., were strictly enforced. The conclusion is obvious that could the people be induced to exercise proper care and watchfulness this enormous loss from carelessness could be very materially reduced. Education appears to be the only available method of bringing this about, and this must be intelligent and persistent.

MONTHLY BULLETIN

"MAKE PENNSYLVANIA FIREPROOF"

Department

OF

STATE POLICE

OF

Pennsylvania

BUREAU OF FIRE PROTECTION

OFFICE—ROOM 166
Capitol Building, Harrisburg, Pa.
HOWARD E. BUTZ, Chief of Bureau

VOL. VI SEPTEMBER, 1910 No. 42

SUGGESTIONS.

Clean up your premises and remove the fire hazard.

Oily rags and waste should be kept in metal receptacles.

Never neglect the chimney, flue or stovepipe. Keep them in repair.

Steam pipes and stove pipes should not pass through wooden partitions.

Electric wiring should be done by experts and inspected regularly.

Rubbish should not be permitted to accumulate in the attic or basement.

Vigilant watch should be kept for unsafe and unsatisfactory conditions.

Abolish the swinging gas jet, and the open grates and fireplaces.

Trash should always be removed. Trash piles are breeders.

Inspect property at regular intervals, and remove all defects found.

Oil and gasoline should be handled with great care to prevent accidents.

No chance should be taken where a fire hazard exists. Remove it.

Vol. VI No. 42

Monthly Bulletin

Department

OF

STATE POLICE

OF

Pennsylvania

BUREAU OF FIRE PROTECTION

HOWARD E. BUTZ, Chief of the Bureau

BULLETIN OF INFORMATION FOR THE PUBLIC

SEPTEMBER, 1919

HARRISBURG, PENNA.:
1919.

FIRE PREVENTION DAY.

Thursday, October 9th, will be set aside and designated as FIRE PREVENTION DAY in the effort to arouse the citizens to the magnitude of fire waste and inducing them to take more interest in the subject of fire prevention.

In the enormous task of conducting a campaign of this character so as to awaken all the people to the disasters and menace that are threatened in the element of fire, a great deal of the accomplishment of success lies within the interest and cooperation manifested by those whom it is possible to reach. It becomes, in fact, their imperative public duty to assist. The subject of fire prevention needs publicity with the force of sentiment behind it that will stimulate and interest the people in realizing that only through their individual responsibility can the fire waste be eliminated. In addition to the potential influence of the press upon this important economic measure, it is hoped to create through this medium a "discussion of fire prevention" among the people by the suggestion that everyone take up the subject with friends and neighbors and impress upon them the vital effect of the irrecoverable waste of fire striking at the foundation of National wealth and power. It is thereby possible to reach the majority.

As an illustration of the increasing evil of fire it is apropos to state that during the year 1918, 12,608 fires occurred in the State of Pennsylvania, entailing a loss of $15,983,417, and taking a human toll of 1,500 injured and killed.

Extensive investigation and study of the causes of these fires showed conclusively that 75% were strictly or partly preventable, otherwise, indicating that carelessness and the lack of individual responsibility were solely responsible. It can, therefore, be seen that by the application of the individual to assist in advancing the cause of fire prevention it is within possibility to reduce the yearly fire loss to a minimum, and practically eliminate the heretofore resultant deaths and injuries to persons.

Most methods of fire prevention are simple and within reach of all. CAREFULNESS is the greatest preventive. Included in the 80 frequently occurring causes of fires during 1918 a few of the causes given below will indicate how CARELESSNESS, INDIFFERENCE AND NEGLECT, played so great a part.

Cause.	Number of Fires.	Loss.
Defective and overheated chimneys,	907	$562,837
Careless disposal of hot ashes,	76	41,561
Cigars and cigarettes carelessly discarded, and smokers' carelessness,	285	230,067
Clothing and curtains, etc., exposed to contact with stove and open flame light,	428	116,360
Hot coals falling from stove,	77	56,307
Electric and gas iron carelessness,	82	50,369
Defective electric wiring,	229	297,678
Explosions due to use of gasoline and inflammable oils,	636	621,751
Defective furnaces and stoves,	536	504,928
Lamps and lanterns overturned,	66	42,149
Lightning (buildings not rodded),	245	463,424
Matches—Careless use and keeping,	441	121,330
Children playing with matches,	385	97,265
Sparks from flues, fireplaces, rubbish burning, etc.,	1,052	1,060,739
Spontaneous combustion,	92	160,636
Gas leaks,	163	150,524
Thawing frozen water pipes,	147	46,145
Woodwork and furniture exposed to contact with stove and furnace,	144	95,421

To eliminate all the fires that are listed as preventable it is first necessary to change human nature with regard to the proclivity of carelessness, and perhaps this can best be undertaken by education in the methods of prevention. Suggestions for the elimination of fire waste could be continued indefinitely, but a few rules might be sufficient to start a train of thought that may cause the reader to increase his present methods along this line and interest others to do likewise.

Carefulness is the first principle in fire prevention. Interest is necessary to make it effective.

Examine your premises frequently to detect and correct defects.

Remove old and dilapidated buildings that are not useful. They present not only a source but also a communication for fire.

Permit no accumulation of waste and rubbish. Closed metal cans should be used for temporary use, where this is necessary, and should be emptied daily. Hot ashes should never be deposited in wooden receptacles.

Keep your chimneys in good condition and clean. Always see that stovepipes are properly connected and solid.

Repair immediately any defect in the roof, especially those of wooden shingle construction. Sparks find a fertile field there.

Electric wiring is dangerous when not properly installed or when defective.

Furnaces and heating appliances should be carefully inspected. Many fires occur by their closeness to beams, rafters, and floors, when not protected by some fire retardent.

Open flame lights and swinging lamps frequently ignite articles that are blown against or come in contact with them.

Fire extinguishers have proved their worth in preventing large fires. Numerous reliable types are now manufactured suitable for the home as well as in the place of business. Dry sand is good for extinguishing fires in oil, varnish and other inflammable liquids.

The match known as the "parlor match" has taken a large toll in life and property loss. Children especially have been victims due to thoughtlessness of parents in leaving matches lying about. Safety matches, or those which require striking on the containing box, should always be used, and even these should be kept out of reach of children.

Smokers should be careful in discarding matches, cigars and cigarettes. Thoughtless habit too often is responsible for fires caused by the discarding of such lighted articles.

Gasoline used for cleaning purposes, and in starting and hurrying the progress of fire, records a fatal record of life and property loss. Gasoline should never be used when the fumes are exposed to a light or fire. Kerosene, also, should not be used for starting fires.

Installation of lightning rods, particularly applying to rural districts, will reduce the possibility of fire loss in the event of lightning stroke.

The teaching of fire prevention, and fire drills, is an important consideration in the curriculum of the schools.

No factory or business can afford to overlook the importance of fire protection. Someone who is familiar with such conditions should be assigned to this safety first measure. Proper and sufficient means of extinguishment should be available, and employes trained in their use; in large establishments fire brigades should be organized; sprinklers, where installed, should be regularly inspected so that

their use may be assured when required; fire drills should always be maintained to prevent panic and loss of life, and employes should be educated and instructed in the methods of fire prevention and protection. Watchman service is, unfortunately, too often misapplied. Men of intelligence and activeness should be engaged for this work so that the responsibility committed to them will be developed in the service with which they are entrusted.

Fire invariably originates through a combination of circumstances, so manifestly clear, that exercise of common sense would devoid virtually all possibility of its occurrence. By eliminating this combination fire does not start and the process is nothing more than the application of forethought and carefulness to our buildings, premises, and equipment therein. It is in this application that your individual responsibility and cooperation is essential. The Bureau of Fire protection has, of course, a broad jurisdiction in the physical elimination of hazards, but in order to successfully accomplish the spirit and intent of fire prevention the closest cooperation of the people must be aroused and secured.

Begin now. Make every day a fire prevention day. No delay should be allowed in starting the part it is your duty to perform, and on the day especially set aside as the pivotal occasion to be observed, let it be separately distinguished as a "No Fire Day."

Everyone should supplement the discussion of fire prevention by real constructive work.

W. F. T.

BUREAU OF FIRE PROTECTION.

The Act of June 3rd, 1911, establishing the office of the State Fire Marshal has been repealed, and the duties and powers heretofore exercised by same has been conferred upon a *Bureau of Fire Protection* under the Department of State Police.

The Act of July 1st, 1919, relating to the organization of the *Bureau of Fire Protection* provides:

Appointment and duty of Assistants.

Investigation of fires.

Elimination of fire hazards.

The importance of preventing fires is ever increasing, and in this reorganization it is urged that increased cooperation be developed by Assistants and citizens to enable a more effective service in preventing fires, as an economic measure and the conservation of resources.

The following is a full text of the enactment and it is a part of "everybody's business" to assist in carrying out its provisions:

Relating to fires and fire prevention; imposing duties, and conferring powers heretofore exercised by the State Fire Marshal, upon the Department of State Police; authorizing the appointment of the chiefs of fire departments and certain public officers and others as assistants to said department, and defining their powers and duties; providing for the investigation of the cause, origin, and circumstances of fires, and the inspection of all and the removal or change of certain buildings, imposing duties on school authorities, and on certain corporations, associations, and fire rating agencies; providing for the attendance of witnesses before the department and the enforcement of its orders; and prescribing penalties.

Section 1. Be it enacted, etc., That the term "department," as used in this act, means "Department of State Police."

The Superintendent of State Police may appoint and remove the chief of the fire department of any county, city, borough, town, or township, where a fire department is established, or, where no such fire department exists, the burgess or constable of any borough or town, or constable, or the president or chairman of the board of supervisors of any townships, as assistants to the department, and when so appointed, shall be subject to the obligations imposed by this act and to the authority of the department.

The Superintendent of State Police may also appoint individual citizens as assistants to the department, who shall be subject to the obligation aforesaid and to the directions of such department.

The department may adopt and enfore rules and regulations governing the having, using, storage, sale, and keeping of gasoline, naphtha, kerosene, or other substance of like character, blasting powder, gun-powder, dynamite, or any other inflammable or combustible chemical products or substances or materials. The department may also adopt and enforce rules and regulations requiring the placing of fire-extinguishers in buildings.

Section 2. Each of the aforesaid assistants shall inquire into the origin, cause, and other circumstances of every fire by which any property or life has been destroyed, damaged, or endangered, occurring within the territorial limits of their respective cities, borough, towns, or townships, and shall make every effort to determine whether such fires were of incendiary origin or the result of design, carelessness, or accident.

Upon the occurrence of any fire, such assistant shall report the same to the department within five days after its occurrence. If the fire appears to the assistant making such inquiry to be of such character and origin as shall require thorough and exhaustive investigation, he shall immediately notify the department, and shall, when directed by the department, assist in the making of such investigation. The reports of any such fire shall be made in writing and in the manner and form prescribed by the department, on the blanks furnished for that purpose. Such reports shall in every case contain a statement of: (a) All the facts relating to the cause of such fire that can be ascertained; (b) the extent of the loss and damage to each property; (c) the loss of life and personal injuries caused thereby or resulting therefrom; (d) the amount of insurance upon each property destroyed or damaged; and (e) such other information as may be required by the department.

The assistant shall notify the department immediately by telephone, or telegraphic message of not more than ten words, of the occurrence of any incendiary fire.

The duties hereinabove prescribed to be performed by the said assistant may be limited by the department so as to reasonably accord with their preexisting public duties.

Any of the aforesaid assistants who shall neglect or refuse to report to the department, or who shall neglect or refuse to make reports or investigations of fires as provided in this section, shall be guilty of a misdemeanor, and, upon conviction, shall be sentenced to pay a fine not exceeding fifty dollars, or to undergo imprisonment not exceeding thirty days, or both.

Section 3. The Department of State Police or its assistants, upon the complaint of any person, or whenever it or they shall deem it necessary, shall inspect the buildings and premises within their jurisdiction. Whenever any of the said officers shall find any buildings or structures, which, for want of repairs or by reason of age or

dilapidated condition or any other cause, is especially liable to fire and so situated as to endanger other property, it or they shall order the same to be removed or remedied, if the same is reasonably practicable, thereby lessening the danger from fire. Whenever such officer shall find in any building combustible or explosive matter or inflammable conditions which are in violation of any law or ordinance applicable thereto, or are dangerous to the safety of such buildings, thereby endangering other property it or they shall order the same to be removed or remedied, and such order shall forthwith be complied with by the owner or occupant of such premises or building. If such order is made by any assistant to the Department of State Police, such owner or occupant may, within five days, appeal to the Department of State Police, which shall, within ten days, review such order and file its decisions thereon; and, unless by its authority the order is revoked or modified, it shall remain in full force and be obeyed by such owner or occupant. Provided, however, That any such owner or occupant, who feels himself aggrieved by such order may, within five days after the same has been affirmed by the Department of State Police, file his petition with the court of common pleas of the proper county, praying a review of such order; and it shall be the duty of the court to hear the same at the first convenient day, and to make such order in the premises as right and justice may require.

Any owner or occupant failing to comply with such order within ten days after said appeal shall have been determined, or, if no appeal is taken, then within twenty days after service of said order, shall be liable to a penalty of twenty-five dollars for each day's neglect thereafter. The service of any such order shall be made upon the occupant of the premises to whom it is directed, by either delivering a true copy of same to such occupant personally, or by delivering the same to, and leaving it with, any person in charge of the premises, or, in case no such person is found upon the premises, by affixing a copy thereof in a conspicuous place on the door to the entrance of the said premises. Whenever it may be necessary to serve such an order upon the owner of premises, such order may be served either by delivering to, and leaving with, the said person a true copy of the said order, or, if such owner is absent from the jurisdiction of the officer making the order, by mailing such copy to the owner's last known post-office address. The penalties herein

provided may be recovered as debts are by law collectible in any courts having jurisdiction of the parties. Such action shall be brought in the name of the Commonwealth, under the direction of the Department of State Police or its assistants, by the Attorney General, or by any district attorney or legally constituted law officer of any county, city, borough, township, or other municipality, who may be designated by the Attorney General, or, at the option of the Attorney General, he may designate any attorney to bring such action.

Section 4. The Department of State Police or its assistants, in addition to the investigation made by any of the assistants, may, at any time, investigate the origin or circumstances of any fire occurring in this Commonwealth. The Department of State Police or its assistants shall have the power to summon witnesses, and compel them to attend before them, or either of them, and to testify in relation to any matter which is, by the provisions of this act, a subject of inquiry and investigation; and may require the production of any books, papers, or documents deemed pertinent or necessary to the inquiry; and shall have the power to administer oaths and affirmations to any person appearing as a witness before them. Such examination may be public or private, as the officers conducting the investigation may determine.

No person shall be excused from attending before the said Department of State Police or its assistants when summoned so to attend; nor, when ordered so to do, shall he be excused from testifying or producing any books, papers or documents before such department, upon any investigation, proceeding, or inquiry instituted under the provisions of this act, upon the ground or for the reason that the testimony or the evidence, documentary or otherwise, required of him, may tend to convict him of a crime or subject him to a penalty or forfeiture; but no person shall be prosecuted, or subjected to a penalty or forfeiture, for or on account of any transaction, matter, or thing concerning which he may have been required so to testify or produce evidence, documentary or otherwise; and no testimony, so given or produced, shall be received against him upon any criminal investigation or proceedings. If after any such examination, the Department of State Police or any of its assistants is of the opinion that the facts in relation to such fire indicate that a crime has been committed, it or he shall present the testimony taken on such ex-

amination, together with any other data in his possession, to the district attorney of the proper county, with the request that he institute such criminal proceedings as such testimony or data may warrant.

The Department of State Police or its assistants may, at all reasonable hours, enter any building or premises within its or their jurisdiction for the purpose of making an inspection which, under the provisions of this act, it or they may deem necessary to be made.

Section 5. Any witness who refuses to obey a summons of the Department of State Police or its assistants; or who refuses to be sworn or to testify, or who disobeys any lawful order of the Department of State Police or its assistants, in relation to any investigation instituted by it or them; or who fails or refuses to produce any books, papers, or documents touching any matter under investigation or examination; or who is guilty of any contempt after being summoned to appear before it or any of them to give testimony in relation to any matter or subject under examination or investigation as aforesaid,—may be punished as for contempt of court. For this purpose application may be made to any court within whose jurisdiction the contempt in question took place, and for which purpose the courts of common pleas of this Commonwealth are hereby given jurisdiction.

Section 6. The Department of State Police shall keep in its office all records which may be sent it in accordance with the law relative to the physical condition of buildings, whether the laws and ordinances have been complied with so far as the same relate to fire protection, records of application for fire insurance upon any buildings, or other information relating thereto, which may be sent it in compliance with law; and shall also keep a record of all fires occurring in this State, and of all the facts concerning the same, including statistics as to the extent of such fires and the damage caused thereby, and whether such losses were covered by insurance, and, if so, in what amount. Such records shall be made daily from the reports made to it by its assistants under the provisions of this act. All such records shall be public, except that any testimony taken in investigations under the provisions of this act may be withheld from the public in the discretion of the Department of State Police.

Section 7. It shall be the duty of the Department of State Police to prepare, in consultation with the Superintendent of Public Instruction, books of instruction, for use in the public and private

schools, of students of all grades, with regard to the danger of fire and prevention of fire waste. It shall be the duty of the Superintendent of Public Instruction, and of the principals or other persons in charge of the various school of this Commonwealth, to provide for the instruction and training of pupils of such schools by means of drills, so that they may, in sudden emergencies, be able to leave the school buildings in the shortest possible time without confusion or panic. Such drills shall be held at least once a month when the schools are in session. Books of instruction with regard to the dangers of fire and the prevention of fire waste, as above specified, shall be published, at the expense of the State, under the direction of the Superintendent of Public Instruction, and shall be distributed in sufficient quantities for the use of the schools as herein provided; and the curriculum of such schools shall include some regular and continuous study of such subjects during the entire school year.

Section 8. The Department of State Police shall make a biennial report to the Governor of the Commonwealth, setting forth a full report of the work of its office during the two preceding calendar years, including such statistics as it may desire to include therein. The said Department of State Police shall also recommend in its report such legislation, if any, as in its judgment may be desirable to further carry out the purpose of this law for the prevention of fire waste.

Section 9. The assistants to the Department of State Police not receiving a salary for the performance of public duties, shall receive, upon the audit of the said Department of State Police, fifty cents for each report of each separate fire reported to the Department of State Police under this act, and, in addition thereto, shall be paid the sum of fifteen cents for each mile traveled to the place of fire, and, in the discretion of the Department of State Police, where an investigation has been made, a sum not to exceed three ($3) dollars for each day's service spent in such investigation.

Section 10. All penalties or forfeitures collected under the provisions of this act shall be paid into the treasury of this Commonwealth.

Section 11. Every fire insurance corporation or association transacting business in this State shall file with the Department of State Police, through an actuarial bureau of any board of fire underwriters or through the secretary or other officer of the insurance corporation or association, a monthly report of fire losses showing: (a) The name

of the assured; (b) location of property burned; (c) date of the fire; (d) the class of occupancy and construction; (e) the probable cause of the fire; (f) the sound valuation; (g) total insurance; (h) the total loss paid.

Such corporation or association shall also file, through said bureau or officers, an annual report of all fires on which losses have been paid during the preceding calendar year, designating the amount of insurance written on such risk by the corporation or association, the amount of probable loss, the character of the property destroyed or damaged, and the supposed cause of the fire.

In all cases where such corporation or association receives evidence or information indicating that any fire was of incendiary origin, a report of such fire and of such evidence or information shall be immediately communicated to the said department.

The monthly report hereinbefore required shall be made in writing, and sent by registered mail to the department, addressed to its office in the city of Harrisburg, on or before the tenth day of each month, as to all fires of which notice was received during the preceding month, and shall include, either in the first or subsequent monthly report, the amount of loss as adjusted and actually paid by such corporation or association for, on account of, or by reason of such loss.

The annual report hereinbefore required shall be made to the department on or before the first day of May.

The notices and reports, hereinbefore required by this section, shall be in addition to any notices and reports such corporation or association may be required to make under the laws of this Commonwealth to the Insurance Commissioner or to any other State Officer.

Section 12. Every board, association, or bureau, which now exists or hereafter may be formed for the purpose of suggesting, establishing, or maintaining rates of fire insurance on property located in this State shall supply to the Department of State Police on request, or permit the Department of State Police to copy from its files, reasonable data relating to the physical condition of insurable property in this State and relating to physical fire hazards in the various communities thereof.

Section 13. Any fire insurance company or association wilfully violating any of the provisions of this act shall be liable to a penalty of two hundred and fifty dollars ($250), to be recovered at the suit of the Department of State Police as debts of like amount are now by law

recoverable; and any foreign fire insurance company or association, licensed to do business in this Commonwealth, wilfully violating any of the provisions of this act shall, in addition to incurring said penalty, forfeit its right to continue the transaction of its business in this State.

Section 14. Upon approval of this act, all books, records, and other documents now in possession and custody of the State Fire Marshal shall be transferred to the Department of State Police.

Section 15. This act shall not be construed to repeal an act of the General Assembly, entitled "An Act to provide for the appointment of a fire marshal for Allegheny County," approved the eighteenth day of April, Anno Domini one thousand eight hundred and sixty-four (Pamphlet Laws, four hundred and sixty-five). It is further hereby declared to be the true intent and meaning of this act that the same shall not apply or be operative in any city or county of this Commonwealth where, under existing laws, whether special or general, the position and duties of a fire marshal are provided for.

Section 16. That all rules and regulations promulgated by the State Fire Marshal and now in force shall continue in force until modified or abolished by the Department of State Police.

All suits, actions, or proceedings now pending under any act hereby repealed or supplied shall not be affected, but shall be continued by the Department of State Police.

Section 17. The act of June third, Anno Domini one thousand nine hundred and eleven, entitled "An act establishing the office of State Fire Marshal; defining his powers and duties; providing for his compensation, and the maintenance of his office; giving courts the power to punish witnesses for contempt of his authority, and to review his orders; and making it the duty of officers of public instruction and persons in charge of public or private schools to instruct children as to the dangers of fire and the prevention of fire waste"; and the act of June twelfth, Anno Domini one thousand nine hundred and thirteen, entitled "A supplement to an act, entitled 'An act establishing the office of State Fire Marshal; defining his powers and duties; providing for his compensation, and the maintenance of his office; giving courts the power to punish witnesses for contempt of his authority, and to review orders; and making it the duty of officers of public instruction and persons in charge of public and private schools to instruct children as to the dangers of fire and the prevention of fire

waste,' approved the third day of June, one thousand nine hundred and eleven; making it the duty of every fire insurance company or association, doing business in this State, to give certain notices and make certain reports to the State Fire Marshal with relation to fire losses on property in Pennsylvania, and of any rating bureau to furnish information to said State Fire Marshal; and providing a penalty for the violation of this act," be, and the same are hereby repealed; and all acts or parts of acts inconsistent with this act are hereby repealed.

Section 18. The provisions of this act shall take effect on the first day of July, one thousand nine hundred and nineteen.

Approved—The 1st day of July, A. D., 1919.

WM. C. SPROUL.

The foregoing is a true and correct copy of the Act of the General Assembly No. 286.

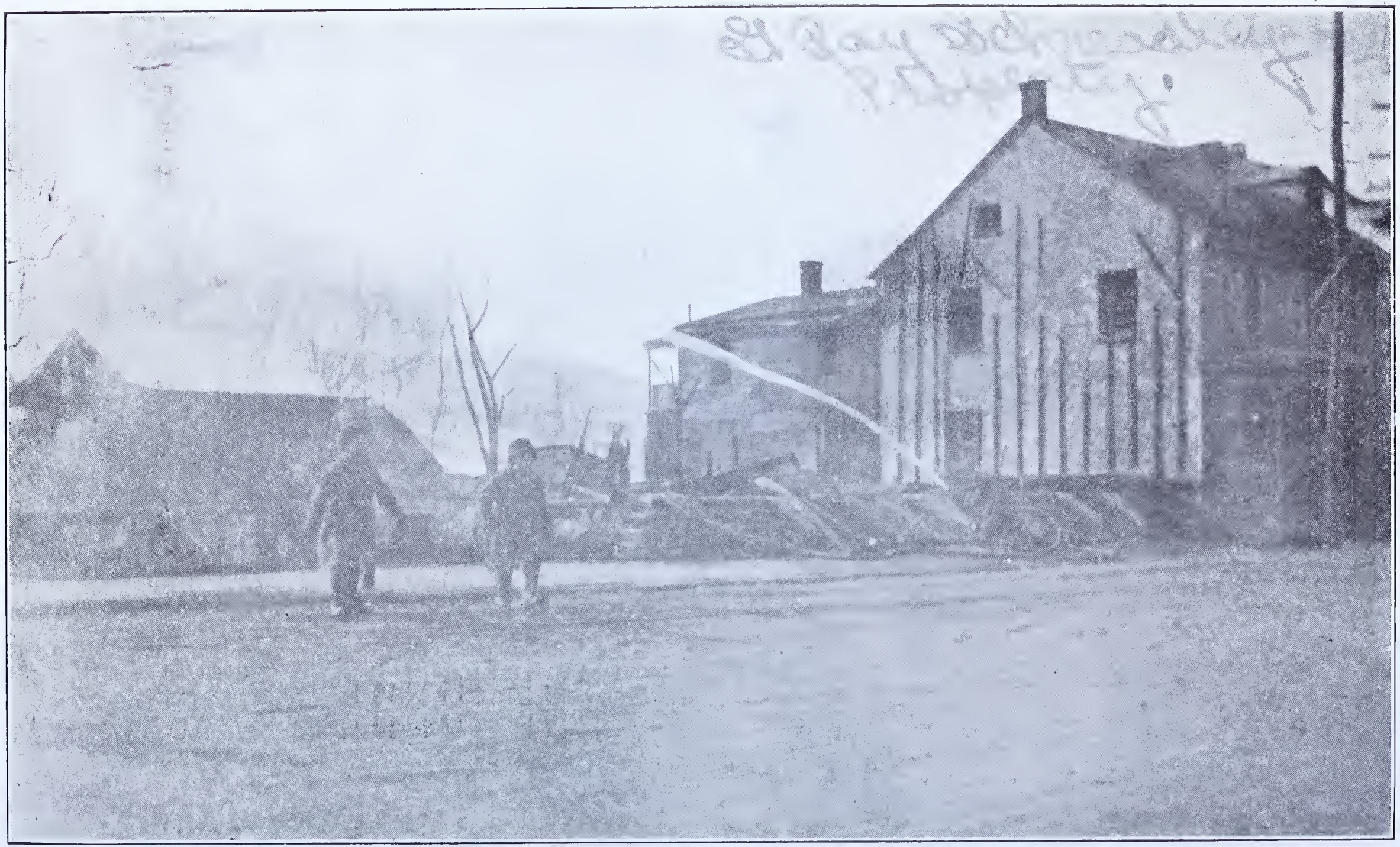
Cyrus E. Woods,
Secretary of the Commonwealth.

NUMBER OF FIRES REPORTED SHOWING VALUE OF PROPERTY LOSS AND INSURANCE.

During the Month of April, 1919.
(Exclusive of Philadelphia and Pittsburgh.)

Counties.	Number of Fires.	Estimated Value.	Estimated Loss.	Amount of Insurance.
Adams,	5	$7,621	$2,008	$3,383
Allegheny,	56	222,597	40,003	182,490
Armstrong,	5	8,375	1,004	3,675
Beaver,	4	14,950	9,071	9,200
Bedford,	1	15,800	12,800	70,000
Berks,	18	99,570	4,778	57,600
Blair,	35	347,885	133,711	166,750
Bradford,	7	13,613	405	8,663
Bucks,	6	52,036	31,081	54,600
Butler,	10	21,290	17,201	13,950
Cambria,	8	17,250	803	12,300
Cameron,	4	5,800	688	3,600
Centre,	7	42,850	287	7,700
Chester,	10	1,612,850	11,505	44,362
Clarion,	5	7,348	5,113	2,500
Clearfield,	3	3,950	347	2,100
Clinton,	2	4,600	4,500	1,100
Columbia,	4	6,400	1,682	4,800
Crawford,	16	48,993	15,108	21,600
Cumberland,	3	1,775	247	1,500
Dauphin,	10	101,164	86,256	49,225
Delaware,	15	66,856	19,879	92,400
Elk,	1	85,000	86	76,500
Erie,	46	292,850	30,818	191,950
Fayette,	8	54,746	13,209	28,450
Franklin,	4	5,325	2,469	4,800
Greene,	2	7,700	2,740	3,700
Huntingdon,	5	14,600	1,563	8,700
Indiana,	8	36,100	10,710	18,300
Jefferson,	7	9,014	3,169	6,200
Lackawanna,	28	486,242	162,840	263,712
Lancaster,	9	21,650	6,578	14,300
Lawrence,	8	17,009	11,043	11,850
Lebanon,	4	5,620	2,086	4,800
Lehigh,	14	84,258	51,007	40,850
Luzerne,	33	410,996	169,829	167,100
Lycoming,	12	401,496	3,021	364,825
McKean,	9	42,038	7,227	14,630
Mercer,	14	74,782	13,461	34,566
Mifflin,	2	5,000	3,703	2,000
Monroe,	5	23,100	23,100	13,630
Montgomery,	13	43,550	21,617	27,350
Montour,	1	3,700	50	2,000
Northampton,	12	239,119	62,400	176,220
Northumberland,	3	20,900	1,109	1,800
Perry,	3	2,001	1,404	836
Potter,	5	12,302	3,956	8,900
Schuylkill,	7	43,061	7,013	30,000
Snyder,	2	3,250	2,696	800
Somerset,	1	4,000	900	----------
Sullivan,	1	800	800	----------
Susquehanna,	7	7,550	2,187	3,600
Tioga,	2	7,057	4,509	3,400
Union,	2	1,700	110	400
Venango,	5	11,200	5,108	6,850
Warren,	6	10,172	2,356	6,900
Washington,	10	42,650	19,072	18,100
Wayne,	2	1,800	21	1,150
Westmoreland,	19	211,953	33,666	48,350
Wyoming,	2	2,400	408	790
York,	15	75,937	4,729	41,835
Total,	571	$5,546,201	$1,091,247	$2,463,642

Eighteen (18) buildings entailing a loss of Thirty-six thousand nine hundred dollars ($36,900) destroyed by an incendiary to collect Twelve hundred dollars ($1,200) on the contents of a small store. The incendiary instead of being sent to prison for life, as he deserved, received only six (6) years in the County jail.



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MATERIALS USED IN CONSTRUCTION OF BUILDINGS DESTROYED OR DAMAGED BY FIRE.

During the Month of April, 1919.
(Exclusive of Philadelphia and Pittsburgh.)

Material.	Number of Fires.	Loss.
Brick,	86	$146,485
Brick and stone,	6	143,454
Concrete,	4	5,672
Fireproof,	1	50
Stone,	8	79,534
Stucco,	1	20
Wood or frame,	433	510,564
Wood with brick or stone,	22	203,997
Unclassified,	9	1,466
Not reported,	1	5
Total,	571	$1,091,247

CLASS OF STRUCTURES DESTROYED OR DAMAGED BY FIRE.

During the Month of April, 1919.
(Exclusive of Philadelphia and Pittsburgh.)

Structures.	Number of Fires.	Loss.
Academies, boarding schools, colleges, universities,	1	$150
Amusement and pleasure resorts,	2	3,905
Apartment houses, boarding houses, dwellings,	263	104,271
Automobiles,	7	1,033
Barns and stables (city and town),	10	4,535
Buildings in course of construction,	1	86
Chapels and churches,	9	93,977
Club, lodge and society rooms,	1	200
Farm Property:		
Barns and stables,	28	52,522
Dwellings,	80	82,816
Implements and machinery,	1	33
Outbuildings,	9	3,715
Garages—private,	16	13,242
Garages—public,	6	8,800
Greenhouses and hothouses (commercial),	1	400
Hospitals and sanitariums,	1	25
Hotels,	11	17,159
Manufacturing and Industrial Establishments:		
Agricultural implements,	2	600
Automobiles and accessories,	2	1,110
Bakeries,	1	450
Blacksmith shops,	1	2,560
Box,	1	6,035
Cigars and cigarettes,	1	30,653
Cleaning and dyeing,	1	10
Clothing (men's) linens, hats, caps, gloves,	1	50,000
Electrical and gas goods and appliances,	1	1,403
Feed and flour,	1	24
Furniture,	1	700
Ice cream,	1	3,700

CLASS OF STRUCTURES DESTROYED OR DAMAGED BY FIRE—Concluded.

Structures.	Number of Fires.	Loss.
Iron and steel, blast furnaces, foundries, rolling mills,	6	47,247
Laundries,	2	41
Lumber yards,	1	2,800
Machine and repair shops—variety,	1	900
Metal—miscellaneous,	3	55
Miscellaneous,	1	50
Planing mills,	1	800
Saw mills,	1	110
Smoke houses,	1	20
Coal mining property,	3	177,661
Mercantile Establishments:		
Boots and shoes,	2	4,324
Confectionery and ice cream,	1	1,355
Department and general store,	2	1,700
Groceries,	8	5,015
House furnishings,	3	239
Jewelry,	1	1,100
Liquors and wines,	1	72,780
Meats,	1	36,760
Men's furnishings,	1	30
Miscellaneous with dwelling occupancy,	26	96,733
Photographers,	1	4,000
Restaurants,	3	4,483
Stationery and wall paper,	1	65,690
Tailoring,	1	75
Miscellaneous,	15	7,174
Outbuildings (city and town),	9	401
Railroad (Steam) Property:		
Freight rolling equipment,	1	400
Miscellaneous,	1	50
Schools—public,	6	54,049
Theatres and motion picture houses,	1	100
Warehouses and Storage:		
General storage,	3	17,450
Household furniture,	2	3,541
Total,	571	$1,091,247

CAUSE OF FIRE AND LOSS INCURRED.

During the Month of April, 1919.
(Exclusive of Philadelphia and Pittsburgh.)

Cause.	Number of Fires.	Loss.
Adjoining fires,	30	$89,933
Ashes (hot)—careless disposal,	5	3,243
Backfire,	10	7,900
Candle carelessness,	4	1,591
Chimney—flues—stacks—defective and overheated,	52	80,841
Cigars and cigarettes (lighted)—carelessly discarded,	14	4,798
Clothing and curtains exposed to contact with stove, heating appliances, and unprotected lights,	10	3,765
Coals (hot)—falling from stove, furnace or fireplace,	5	456
Cooking appliances (electric—gas—alcohol)—carelessly used,	3	1,059
Electric, flat and gas iron carelessness,	7	2,061
Electric wiring—defective,	9	70,366
Explosions:		
Alcohol, gas and oil lamps,	5	1,472
Alcohol, gas and oil stoves and heaters,	12	4,495
Coal oil and kerosene—starting fires and filling lamps and lanterns,	5	1,140
Gas leak,	5	157
Gasoline—benzine—naphtha—careless use and cleaning with, exposed to fire or unprotected lights,	6	6,614
Oils (inflammable)—ignition,	1	15
Water back,	1	21
Fireplace—defective or overheated,	1	600
Furnaces, heaters, stoves, and their pipes—defective or overheated,	34	43,412
Grease ignition on stove,	1	25
Lncendiary,	12	121,029
Lamps and lanterns—overturned,	4	2,429
Lightning (no report as to rods),	12	11,758
Matches—careless use and keeping,	19	3,263
Matches—children,	26	5,758
Matches (lighted)—carelessly discarded,	6	398
Metals (hot), asphalt, tar, pitch, wax metal, etc.—ignition of,	5	5,553
Miscellaneous,	3	59
Motion picture apparatus and films,	1	100
Ovens (bakery)—defective or overheated,	1	450
Smoking—carelessness,	2	26
Smoking in bed,	10	4,606
Smoking meats,	2	35
Sparks,	6	3,464
Chimneys, flues, stacks, cupola—(exposure—adjoining fires),	58	11,730
Locomotive,	6	6,561
Running machinery (friction),	1	24
Rubbish and brush burning,	10	6,950
Stationery engines, tractors, etc.,	1	7,200
Spontaneous combustion,	5	6,415
Tramps,	1	515
Undetermined,	158	568,624
Woodwork and furniture exposed to contact with stove, heating appliances and unprotected lights,	2	336
Total,	571	$1,091,247

NUMBER OF INSPECTIONS MADE AND ORDERS ISSUED FOR REMOVAL OR REMEDYING OF FIRE HAZARDS—During the Month of July, 1919.

Buildings Inspected.	Number of inspections.	Removal of or general repairs to dilapidated buildings.	Removal of rubbish and waste accumulation and regulating proper disposal thereof.	Regulating proper storage of explosives (petroleum products—chemicals—powder).	Repair chimney or stovepipe connections.	Repair defective wiring.	Close up openings in buildings.	Place metal or asbestos protection around heat appliances or installation of other fire retardents.	Miscellaneous—Not classified.	Total number of orders.	Orders not necessary.
Apartment houses, boarding houses, dwellings,	15	12	5	0	0	0	0	0	0	17	3
Bank and office buildings,	4	0	0	0	0	0	0	0	0	0	4
Barns and stables (city and town),	29	28	20	0	0	0	0	0	0	48	0
Billiard (pool) halls and bowling allays,	4	0	0	0	0	0	0	0	0	0	4
Club, lodge and society rooms,	1	0	0	0	0	0	0	0	0	0	1
Farm Property:											
Barns and stables,	2	2	0	0	0	0	0	0	0	2	0
Dwellings,	1	1	1	0	0	0	0	0	0	2	0
Fire department houses,	1	0	0	0	0	0	0	0	0	1	0
Garages—public,	13	0	1	1	0	0	0	0	1	3	10
Hotels,	2	0	0	0	0	0	0	0	0	0	2
Junk shops and yards,	4	2	1	0	0	0	1	0	0	4	1
Manufacturing and Industrial Establishments:											
Athletic and sporting goods, awnings and tents,	1	0	0	0	0	0	0	0	0	0	1
Bakeries,	9	0	0	0	0	0	0	0	0	0	9
Blacksmith shops,	2	2	1	0	1	1	0	0	0	5	1
Carpets and rugs,	1	0	0	0	0	0	0	0	0	0	1
Cigars and cigarettes,	1	0	0	0	0	0	0	0	0	0	1
Cleaning and dyeing,	7	0	0	0	0	0	0	0	0	0	7
Clothing (men's) linens, hats, caps, gloves,	1	0	0	0	0	0	0	0	0	0	1
Cobblers,	12	0	1	0	0	0	0	0	0	1	11
Confectionery,	3	0	0	0	0	0	0	0	0	0	3
Feed and flour,	1	0	0	0	0	0	0	0	0	0	1
Hosiery and knitting,	3	0	0	0	0	0	0	0	0	0	3
Laundries,	5	0	0	0	0	0	0	0	0	0	5
Leather goods and saddlery,	1	0	0	0	0	0	0	0	0	0	1

Lumber yards,	1	0	0	0	0	0	0	0	0	0	1
Machine and repair shops—variety,	3	0	1	0	0	0	0	0	0	1	2
Metal—Miscellaneous,	1	0	0	0	0	0	0	0	0	0	1
Miscellaneous,	1	0	0	0	0	0	0	0	0	0	1
Plumbing and tinning,	12	0	0	0	0	0	0	0	0	0	12
Printing establishments,	5	0	1	0	0	0	0	0	0	1	4
Silk and lace,	1	0	0	0	0	0	0	0	1	1	0
Textile,	3	0	0	0	0	0	0	0	0	0	3
Mercantile Establishments:											
Athletic and sporting goods,	2	0	0	0	0	0	0	0	0	0	2
Automobiles and accessories,	8	0	1	0	0	0	0	0	0	1	7
Barber shops,	11	0	1	0	0	0	0	0	0	1	10
Boots and shoes,	25	0	2	0	0	0	0	0	0	2	23
Confectionery and ice cream,	22	0	1	0	0	0	0	0	0	1	21
Department and general stores,	24	0	1	0	0	0	0	0	0	1	23
Drugs and medicines,	22	0	1	0	0	0	0	0	0	1	21
Electrical and gas fixtures and supplies,	2	0	0	0	0	0	0	0	0	0	2
Florists,	3	0	0	0	0	0	0	0	0	0	3
Flour, feed and hay,	3	1	0	0	0	0	0	0	0	1	2
Groceries,	86	0	7	0	0	0	0	0	0	7	79
Hardware,	15	0	2	0	0	0	0	0	0	2	13
Hats and caps,	2	0	0	0	0	0	0	0	0	0	2
House furnishings,	25	0	1	0	0	0	0	0	0	1	24
Jewelry,	15	0	1	0	0	0	0	0	0	1	14
Ladies' furnishings,	7	0	0	0	0	0	0	0	0	0	7
Leather goods and harness,	2	0	0	0	0	0	0	0	0	0	2
Meats,	10	0	2	0	0	0	0	0	0	2	8
Men's furnishings,	23	0	1	0	0	0	0	0	0	1	22
Miscellaneous with dwelling occupancy,	1	0	0	0	0	0	0	0	0	0	1
Miscellaneous,	11	0	1	0	0	0	0	0	0	1	11
Musical instruments and sewing machines,	6	0	0	0	0	0	0	0	0	0	6
Notions and novelties,	10	0	0	0	0	0	0	0	0	0	10
Restaurants,	10	0	1	0	0	0	0	0	0	1	9
Stationery and wall paper,	10	0	1	0	0	0	0	0	0	1	9
Tailoring,	19	0	1	0	0	0	0	0	0	1	18
Tobacco and cigars,	16	0	2	0	0	0	0	0	0	2	14
Wholesale and retail groceries and fruits,	20	0	2	0	0	0	0	0	0	2	18
Millinery,	9	0	0	0	0	0	0	0	0	0	9
Miscellaneous,	2	0	0	0	0	0	0	1	0	1	1
Outbuildings (city and town),	12	12	3	0	0	0	0	0	0	15	0
Theatres and motion picture houses,	3	0	0	0	0	0	0	0	0	0	3
Warehouses and Storage:											
General storage,	6	1	2	0	0	0	2	0	0	5	4
Totals,	592	62	66	1	1	1	3	1	2	137	492

INSPECTIONS.

The value of critical examinations or inspections into the conditions of buildings and surroundings as a means of suggesting, and the adoption of measures for the prevention of fires cannot be overestimated. Every owner or tenant of a property, no matter how small, or large it may be, whether it be a humble home or a palace, a little business place or an enormous manufacturing plant, it is important in the interest of conservation that every possible effort be put forth to prevent fires, which are a national disgrace and a source of wastage of wealth that is absolutely irrecoverable. This is proved beyond dispute by statistics which record a fire waste today approximating $290,000,000 a year, presenting a problem that merits the consideration of every patriotic citizen. The vital feature of the situation being the fact that this fire drain is so largely preventable. The majority of fires occur in dwellings due to the small habits of carelessness, which can only be excused on the grounds of thoughtlessness, which is a very expensive condition and one that should be at once corrected, and carefulness in all things substituted. Fires are largely, if not wholly preventable, and preventive measures should be instituted that will relieve the situation and the first move in that direction is by making or having a thorough inspection of property. "Know Thy Own Property," put it in first-class, safe condition, free from all possible hazards, and when this has been accomplished, call upon the neighbors and friends and invite them to participate in an effort for the reduction of the fire losses in the community by forming an association or committee for the civic betterment and the reduction of fire losses, which are continually increasing, owing to failure in recognizing the constant danger that exists from fire which is a constant menace, particularly where cleanliness is lacking; the trash or rubbish pile is a menace found nearly everywhere, whether it be inside of premises or in the open lot, a spark from a match or a carelessly thrown cigarette or cigar stub may start a fire that may result in a conflagration and wipe out an entire town. The residential section is usually the greatest sufferer. The improper handling of oil and gaso-

line is another source of danger. As an instance, a coal-oil lantern kicked over by a cow was responsible for a $165,000,000 loss in Chicago.

A Baltimore conflagration which devastated an area of 80 blocks, or 140 acres, was supposed to have been caused by a castaway match or cigarette which fell into a basement through an opening in the sidewalk. Carelessness, rank carelessness was also responsible for the conflagration in May, 1918, which destroyed 191 buildings in Mobile, Alabama, and so the charge against carelessness could be continued as descriptive of the cause of more than 60% of all the fires that occur, and is directly responsible for at least $147,000,000 of the $290,000,000 approximate fire waste, which occurs in this country. Why this waste which is beyond recovery? Simply because of indifference and carelessness. The correction of this evil is everybody's business and more attention should be given to the saving of this wasted wealth. If a lot of burglars or thugs should attack a community how quickly the residents would respond to the call for a vigilant committee to forestall their doings and capture and punish the perpetrators. Why not form a Vigilant Committee to fight the fire fiend by the prevention of fires, and the elimination of the cause, which is well known to be carelessness. Down carelessness and 70% of the fire losses will cease, and the money wasted will be saved to help combat the high cost of living, which, together with taxation, is causing distress and desolation throughout the land. It can be done, but requires individual effort and cooperation of all interests, devoting some spare time in arranging a community inspection, and the adoption of methods that will remove and destroy all hazards that are responsible for fire losses and make and enforce regulations for the permanent abolition of fire breeding menaces. This is possible by the simple process of cleanliness in and about premises, and the proper guarding against dangeronus conditions which arise from thoughtlessness and neglect to regard fires as an Enemy that must be fought by eliminating the cause, and constant vigilance and preventive measures that should suggest themselves to those who are in any way interested in the preservation of the home from destruction, and the retention, without interruption, of a business that may have taken years to establish. Farmers, manufacturers, mill owners, merchants, housekeepers and employes can render inestimable service in preventing fires by practicing themselves, and by example teaching others habits of

carefulness and elimination of carelessness, which is the cause of such vast waste by fire and is as disgraceful as it is unnecessary. The recognition of individual responsibility is essential in the prevention of fire and it is obligatory on the part of "everybody" to promote protection as an econmic measure to guard against an evil which is directed at the nation's power and wealth. The destruction of resources and property must be prevented by concentrated efforts in effecting measures that will eliminate the menace of fire.

TAXATION.

—And How to Reduce It.—

There are two reasons for the occurrence of fires. First, through conditions over which human agencies have little, if any, control; and second by the carelessness, neglect and indifference of the people, who are strictly or partly responsible for approximately 75% of the losses caused by fire in the State.

A careful analysis of the causes of fires has been made by the Bureau of Fire Protection, covering an extended period, which cannot do otherwise than reflect or indicate a disinterested consideration by the citizens upon the economic and civic advancement of their communities. And it is to be wondered why this controllable source of loss and taxation should be tolerated.

An answer may be submitted that many people feel that as they have not directly suffered from the ravages of fire, they are not helping to bear the burden of the money that the insurance companies are obliged to pay others for losses occasioned by carelessness,—and ultimately, unless these referred to do not exercise the proper precaution upon their own premises, they also may be visited by the fire demon, too late then to realize their mistake.

Upon the fire losses, upon the condition of your property, and that adjoining, and upon other conditions of fire hazard, depend your premium basis of insurance. Citizens are more or less prone to resent an increase in their municipal taxation, which generally is provided for the betterment of conditions; yet, on the other hand, when it is within their reach and power to reduce insurance premiums, a

form of taxation for protection, they fail to take advantage to improve their condition, notwithstanding the possibility of direct loss of property, and even jeopardy of life, being imminent.

Study and compare the table of fire losses and causes which appear in these monthly bulletins and then contribute your efforts to reduce the causes that have been increasing the fire losses; and go further and cooperate in eliminating the causes that are being reduced.

Organize against the invasion of the fire evil. Examine your home and your place of business and if any fire hazards exist have them corrected; or if you know that your neightbor's property displays evidence of danger from fire, interest him to not alone remove the hazard but also to become an advocate of fire prevention.

In 1918 the people of Pennsylvania were "taxed" approximately $12,000,000 for fires occuring from causes that were preventable.

An insurance company does not engage in business to lose, so consequently someone is obliged to pay for the enormous fire waste. And who pays? It is you.

Think what it would mean to have your home or your place of business destroyed by fire. The insurance paid, if you are fortunate to be insured, would not entirely reimburse, and every dollar thereby reverting to you would represent increased taxation of insurance premiums.

Your are able to avoid this if you will organize and help to eliminate this evil. This is a form of taxation that can be reduced by your contribution in the interest of fire prevention. It is worth a great deal.

SHINGLE ROOF MENACE.

Insurance statistics prove that a large percentage of fires originate on the roof. Fire means waste, and waste means loss. It matters not if the building is insured, the loss is just as great as is the amount collected from the public in the form of insurance rates. The rate of insurance is determined by the amount of the loss; and the more fires the higher the rate.

Manufacturers and dealers pay for insurance, and the cost is added to the price of goods which the consumer pays, and the higher the in-

surance rates the more you have to pay for all the articles you purchase, including food. Therefore, a reduction of the fire loss means that every individual would directly benefit by a reduction in the cost of living.

One of the greatest problems which confronts the public today is that of the annual fire loss, and the fact stands out clearly above all others, that the inflammable roof constitutes the greatest single fire hazard, which has assumed gigantic proportion and is being added to daily. Reports come in from all sections of the country showing, "Entire Towns Destroyed by Fire," "Flying Brand Set Fire to Thirty Houses." "Conflagration Wipes Out Residential Section." Truly the shingle roof route to destruction is being widely advertised.

A careful analysis of conflagration shows four elements to be present; a spell of hot, dry weather; high winds; a preliminary quick fire and inflammable roofs. If one of these elements is removed the conflagration cannot take place. The elements of weather cannot be controlled. The quick, hot fire can be controlled by general unburnable construction; but will not become a reality until the many fire traps, which cover the country, rot, or are burnt, but the roofing element can be changed and should be, so that it will no longer combine in general reaction and make conflagrations impossible.

The inability of any section, where shingle roofs are prevalent, to resist the onslaught of a conflagration is pitiable. The fire blazes hotly and the burning embers are caused by the wind to start fires in different sections. The fire departments are rendered helpless, owing to having two or three fires to cope with at one time, and when from ten to twenty fires start at once there is no help.

Every year the volume of loss from improper and hazardous roofing conditions is increasing from ten to forty per cent. As an example of the danger arising from the use of wood-shingles, and an argument in favor of non-inflammable roofing, the story of the great fire at Salem, Massachusetts, can be quoted: "This fire started in a frame leather factory, roofed with wood shingles. The blazing shingles were carried to surrounding buildings by high winds and started a general conflagration. Witnesses saw shingle roofs burst into flames long before the fire reached them. House after house blazed as the rain of sparks fell on the roofs, setting them on fire."

Shingle roofs are an invitation to fire. With their curved and jaggered edges, pointing upwards, they offer lodgment to flying embers,

and in the case at Salem, which cost the city several million dollars, recognizing the responsibility of shingle roofs for this loss, the City Council passed an ordinance prohibiting the use of such roofs in the future. Many other instances could be mentioned where the same conditions have resulted from just such cause. The time has arrived to put the limited supply of timber to a much better use than sawing it into kindling wood size and arranging it in convenient form for burning on top of your homes. Will you continue to literally burn up your money and complain about the high cost of living, or will you help to banish forever the wood shingle and assist in obtaining in your community by law, or other means, regulations requiring that all roofs must be made of non-inflammable material? Common sense should teach you that this is a move in the right direction, and you will profit by reduction in the loss caused by the best invitation to fire in use today.

MONTHLY BULLETIN

"MAKE PENNSYLVANIA FIREPROOF"

Department

of

STATE POLICE

of

Pennsylvania

BUREAU OF FIRE PROTECTION

OFFICE—ROOM 166
Capitol Building, Harrisburg, Pa.
HOWARD E. BUTZ, Chief of Bureau

VOL. VI OCTOBER, 1919 No. 43

FIRE PREVENTION CAMPAIGN.

A Patriotic Duty of Every American is to PREVENT FIRE. America at war needs every ounce of her energy and resources. It is criminal to cause hazards; it is unpatriotic to neglect them. Here are some of the ways you can help:

1. Learn the factory rules and OBSERVE them.

2. If you discover a fire, give the alarm promptly. Do you know how to do this? Ask to be shown.

3. DON'T SMOKE where it is not permitted.

4. Never drop a lighted match, cigar or cigarette; be sure that it has no spark left before throwing it away.

5. Report suspicious strangers seen about the plant.

6. If you notice any unusual smoke, or any other accident, notify the proper person at once.

7. Carry your precautions into your own home; keep your house and premises free from rubbish and instruct others to do the same.

8. Where would YOUR job be if the plant wherein you are employed should burn.

9. Help yourself by helping others.

10. BE CAREFUL.

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Monthly Bulletin

Department

OF

STATE POLICE

OF

Pennsylvania

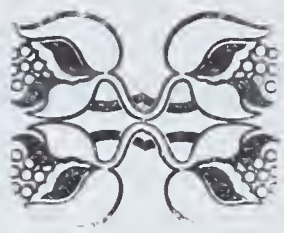
BUREAU OF FIRE PROTECTION

HOWARD E. BUTZ, Chief of the Bureau

BULLETIN OF INFORMATION FOR THE PUBLIC

OCTOBER, 1919

HARRISBURG, PENNA.:
1919.



CO-OPERATION OF CITIZENS AND MUNICIPAL AUTHORITIES A FUNDAMENTAL NECESSITY IN EFFORTS TO REDUCE THE FIRE WASTE.

The matter of the prevention of fires has obtained recognition as a necessity in the advancement and development of social and industrial life, and while it is highly important to maintain proper and efficient fire protection facilities, it is also equally important that fire prevention methods be first established in order to effectually prevent and reduce the unnecessary fire waste and the sacrifice of life through carelessness, indifference and neglect. Fire prevention in its co-operative state may be identified as civic betterment, but where such co-operation is lacking it is the progressive prerogative of a municipality to require adherence either through the statutory laws, as far as their jurisdiction extends, or by the enactment of ordinance that will affix responsibility upon those who wilfully jeopardize life and property by fire hazards.

Chief among the methods for fire prevention should be considered:

Construction, Alteration, Repair and Maintenance of Buildings.

Demolition or repair of dilapidated buildings which constitute a menace to surrounding property and the endangering of life.

Prohibiting under penalty the accumulation of rubbish and waste materials in and about premises, and regulating the burning thereof.

Regulating the storage of gasoline and other petroleum products, explosives, etc.

Fixing liability for the cost of extinguishing a preventable fire upon persons in whose premises fire occurs as a result of disobedience to a fire prevention regulation or ordinance.

The enactment of such fire prevention methods affords the means of eliminating fire hazards, but it is, of course, requisite to see that the provisions are properly enforced. This can be conveniently and successfully accomplished by the organization of a Fire Prevention Bureau, under the direction of the Chief of the Fire Department, (with the cooperation of the Building Inspector, in so far as it re-

lates to Construction, Alteration, Repairs and Maintenance of Buildings) who shall appoint, or obtain the volunteer services of at least two members from each fire company, whose duty it shall be to make periodical inspections of all properties and premises in the territory assigned them, and order the abatement of fire hazards. The report of such inspections should be filed with the Fire Prevention Bureau and where it is found that conditions have not been remedied within a reasonable length of time, or a recurrence is permitted, action should be taken against the offenders. Fire prevention publicity is usually welcomed by local newspapers, and has a far reaching effect in the community, and if publishers are properly approached they can be induced to lend valuable assistance in the movement for the civic betterment, of which there is none more important than the prevention of fires.

The details of fire prevention methods can best be applied in conformity with local requirements, which should be studied and by co-operation of citizens and those in authority at once remedied.

The Act of July 1, 1919, establishing the Bureau of Fire Protection in the Department of State Police provides for the appointment of fire chiefs and others to act in the capacity of Assistants to the Department in reporting of fires and for the purpose of bringing to the attention of the Bureau, existing conditions in their respective districts as to buildings requiring repairs, or in such a dilapidated state as to necessitate demolition, or accumulation of rubbish and waste material constituting a fire hazard, or the storage of oils and explosives in such a manner as to be a menace.

Municipalities to secure protection and further the prevention of fire, should enact ordinances containing such provisions necessary for the proper protection of life and property from fire, and demand that they be rigidly enforced, permitting no influence from deterring those in authority enforcing such ordinances.

Fire prevention is an everybody's business, and citizens should realize that their co-operation is essential in this movement. They should freely assist and uphold the local authorities in this movement and avert jeopardy of life and fire waste, which is an irrecoverable loss, interrupting business, and causing loss of employment; securing in its stead civic cleanliness, industrial prosperity, reduction of insurance rates, and satisfaction in the knowledge of safeguarding the community from a possible disaster.

HAZARDS IN DWELLING HOUSES.

To Prevent Fires in the Home.

Fires in the Home are easier to prevent than to extinguish.

Unlike factory fires, many of which are due to causes inseparable from manufacturing, practically every dwelling house fire is due to carelessness or neglect. Especial care should be taken in the home to prevent fires from starting, because when they do start there is seldom a man about to extinguish them. Where women and defenseless children are housed, every human consideration demands the utmost vigilance on the part of those responsible for their welfare.

If the suggestions in this bulletin are understood and heeded, many a life may be saved and many a home successfully guarded against destruction by fire.

1. HOUSEKEEPING. The attic, cellar and all closets and outbuildings should be cleaned at least twice every year, and all useless material and rubbish removed therefrom and burned. These unnecessary accumulations are dangerous, and the cause of many fires. Store all remaining materials neatly so that a clear passage may be had between or around boxes, barrels, etc.

Metal waste baskets should be used.

In storing clothing, first remove all matches or other articles from the pockets and then carefully fold and place away. Do not hang clothes where they will be near hot chimneys.

Do not go into closets with lighted candles or matches.

Care should be exercised in burning leaves, dead grass or rubbish. Keep these fires a safe distance from buildings, and never light them on windy days.

Do not bank houses in the winter with straw, excelsior or other readily inflammable material; a chimney spark or carelessly thrown match may ignite it.

2. MATCHES. Use only safety matches, and make it impossible for children to get them. Always place burned matches in metal receptacles; never throw them on the floor or into waste baskets.

3. SMOKING. To smoke in garages, in bed, or around stables containing hay is deliberately to invite disaster.

4. LIGHTING HAZARDS. Swinging gas brackets are dangerous, and never should be allowed near curtains or dressers. Fix

them rigidly so as to avoid contact with combustible material. If open gas flames are within two feet of ceiling, see that ceiling is protected with sheet metal or asbestos board. Tips for gas lights are inexpensive, while a light used with a broken tip or without a tip often causes fire. Don't use pendant gas mantles unless protected underneath with wire gauze. Hot carbon deposits from and drop from mantles of gas arc lamps. A globe closed at the bottom is safer.

Examine the gas meter, see that it is securely set and well connected, and is not located near open lights or furnaces. An outside gas shut-off valve to service-connection is desirable. Never look for gas leaks with a match, candle or lamp.

Where a dwelling is lighted by a gasoline vapor or acetylene gas system the rules governing the safe use of these illuminants should be carefully studied and rigidly observed.

Illuminating oils should be kept in closed metal cans in a safe place, and lamps should never be filled except by daylight. Kerosene lamps should be kept clean and properly trimmed. If allowed to burn all night, select one that contains sufficient for the purpose to avoid necessity of refilling. A dirty lamp containing only a little oil is unsafe. Lamps with broad bases are preferable. Care must be taken not to place them near inflammable material, under shelves, nor to set or leave lamps or lanterns in stables or other places where animals may upset them. Never allow little children to carry lamps, and never set a lamp on a table cover. Children may pull them over.

Do not use paper or decorative shades of inflammable material on lamps or electric light bulbs.

Electricity is a hidden hazard, and extends throughout the wire system in a building. Be sure it is safely installed, and have the system carefully inspected and passed upon by a recognized electrical inspector. Many fires are due to defective electric wiring. Do not destroy the insulation on electric light, fan or heater wires by hanging them on hooks or nails. Immediately repair or replace any defective switches, fuses, sockets, etc. A fuse is the "safety valve" of an electric system.

Before attaching electric irons, vacuum cleaners, cooking utensils or any other electrical device to your lighting circuits or sockets, consult an electrician as to the ability of your wiring to withstand this additional load. Electric wiring systems are designed to carry only a certain current, and if overloaded may cause fires. Numerous fires

have been caused by leaving electric irons with the current on. Disconnect them immediately when through using.

5. HEATING HAZARDS. Coal and kindling should preferably be kept within a brick or stone enclosure and not stored against frame partitions nor directly against walls of boiler or furnace rooms.

Never put kindling into the oven.

Deposit all ashes in metal receptacles or upon noncombustible floors, removing same from building at least once a week. Barrels or boxes should not be used for storing or carrying ashes unless they are constructed entirely of metal. Before starting fires thoroughly clean out furnace and flues thereto, also fireplaces. Carefully examine them and immediately repair or replace any defective part. Don't burn out chimneys and flues by making an especially hot fire with paper, etc. Main chimneys should be cleaned from roof to cellar, and all stovepipes where entering them provided with metal collar and rigidly fixed in place. Replace any tile, crock or flimsy flues and chimneys with substantial brick chimneys. Long lengths of metal stovepipes are dangerous.

At least an eighteen-inch clearance is necessary between top and sides of furnace, breeching and flues from ceiling, partitions and other combustible materials. Repair at once any broken plaster in ceiling or partition walls.

Do not have steam pipes in contact with wood work or near inflammable materials, and do not permit rubbish to accumulate behind steam coils or radiators.

Gas stoves or other heaters should have a ventilating flue to carry off the burned gas fumes which are poisonous. Do not use portable rubber or similar tubing, but connect all gas stoves rigidly and securely with gas pipe. Examine valves and see that they are tight and do not leak.

Never permit a stove of any kind to be set up without stone, brick, concrete or metal protection underneath, or near a partition without a metal shield and air space.

Never run stovepipes through partitions, or paste paper over flue holes.

All types of open fireplaces or stoves, especially where there are children, should be provided with substantial spark screens.

Don't throw waste paper on an open fire.

Every period of extreme cold results in numerous fires due to forcing the heating apparatus. Keep this in mind this winter. Watch your heater.

Keep hoods and pipes of kitchen range free from grease and lint by cleaning with hot water and lye.

Do not hang clothes or bags near stoves, or on stovepipes or steam pipes.

Do not allow your family to jeopardize their lives by pouring kerosene onto the kitchen fire to hurry it along.

Extreme care should be used with alochel or kerosene stoves. They should always be filled in the daylight and away from any open flame.

6. GASOLINE AND EXPLOSIVES. Do not use patent cleaning fluids, polish or chemicals unless you know something about them. Many of these contain explosives and oils of a dangerous character.

Do all gasoline cleaning in the open air, and caution the members of the family to refrain from using gasoline or like volatiles in the house. This material should not be kept in the house nor in glass bottles.

Beware of rags or cloths used in oiling floors or cleaning or polishing furniture. They may ignite spontaneously. Be sure and burn them after using. Leaving them about for only a few hours may mean a fire.

7. FIRE PROTECTION. One or more approved chemical fire extinguishers should be placed in every home. They must be protected against freezing.

It is well to see that the garden hose may be attached to the kitchen faucet.

8. THE FAMILY GARAGE. Never allow open flame lights in a garage. Run the auto outside when filling the tank so that gasoline vapors will dissipate.

Do not keep quantities of gasoline or calcium carbide inside of garage or dwelling. An approved underground storage tank is the safest method for keeping gasoline.

A metal waste can should be located at a convenient place outside the garage for all waste and greasy rags. Burn these every week.

It is unsafe to use sawdust or shaving to absorb grease and oil in a garage. If the floor is wooden, scrub it occasionally with hot water and lye.

The use of gasoline for cleaning parts of the automobile in the garage is a dangerous thing.

The garage should not be heated by means of stove or open fire of any kind, unless same is isolated in another room so that the gasoline vapors of garage cannot possibly get to it. Gasoline vapor travels.

Keep an approved fire extinguisher and a pail of sand in garage. Water thrown on burning gasoline merely serves to spread it.

9. IN GENERAL. Have the telephone number of the nearest fire station on a special card at your telephone.

Familiarize the family with the operation of the nearest fire alarm box. After operating a fire alarm, stay near it to direct the firemen to the fire. Every minute is significant.

Don't fail to notify the chief of the fire department of anything you may see that is dangerous or liable to cause fire.

NEGLIGENCE BORDERING ON CRIME.

Too much cannot be said against the common criminality of leaving small children alone in their homes, sometimes locked in, while their parents are at the movies, or elsewhere but absent.

Words do not exist in any known language carrying a sufficient strength of condemnation of the unnatural mother or father who deliberately closes the door of the house with helpless children inside, left alone to face the dangers of a dwelling in which the hazards of fire are not properly safeguarded while the parents attend a place of amusement, visit their neighbors, or absent themselves for some other purpose.

A fire is breaking out every minute somewhere in America, and no one on earth has any knowledge when or where the next one will occur, and yet little ones, utterly unable to protect or save themselves, are locked inside with every avenue of escape cut off, while their parents are away, perhaps having a good time gadding about the neighborhood, or on shopping tours or other matters which take them away from the helpless little ones.

Shame on such! They are absolutely and entirely unworthy the sacred name and ties of mother or father.

If parents must go away from home on a visit or business of some nature, and no one is available to care for the children, then let the business go. Stay at home or take the children along. If the house must be locked, then first put the children outside. Lock them out instead of in, and give the neighbors a chance to perform the duties

of care and safety which some parents seem unable and unfitted to discharge themselves.

INCREASED TAXATION RESULT OF NEGLIGENCE.

Notwithstanding all that has been written and advice given on the subject of fire prevention and the work done by various individuals, civic bodies State and municipal authorities in the interest of the taxpayer in the endeavor to bring about a reduction of the fire waste and the consequent saving in taxation by a reduction in insurance rates, the waste continues to creep upward, bringing with it an increased taxation and is adding materially to the higher cost of living. It should be clear to everyone that the cost of fire insurance or indemnity against fire loss is a tax upon the wealth, energy and resources of all the people, resting as it does in its final distribution upon every consumer of any article of trade or commerce. Insurance Companies must collect a tax sufficient to pay all losses sustained; pay cost of collection and distribution, and have left a reasonable profit upon capital invested, as a guarantee of responsibility, the ratio or percentage of tax assessed and collected for a given period of time, sufficient in length to permit the application of the law of average being measured by the value of property destroyed for a like period of time, and whatever increases the quantity of value destroyed also increases the amount of tax assessment. That fire waste is a tax upon the wealth and resources of the people cannot be denied. Property destroyed by fire represents money, time, labor, and is irretrievably lost. No amount of insurance upon a building which burns can restore material, call back the time or recreate the energy that went into the building. The most insurance can do is to reimburse in part for the financial loss. This reimbursement is made directly from a fund taken from the pockets of the people, so that it must be understood that when any piece of property is destroyed by fire, even though its owner may be made whole financially the people have lost its value, computed in terms of material, time and labor. Doubtless if the question was asked an individual as to amount contributed to the insurance indemnity fund, the answer would be the amount of annual insurance premiums paid upon property, owned and covered by insurance against loss or damage. While it is true that this amount represents actual payment, it is also true that a portion of this is collected

indirectly from others in the process of carrying on whatever business they may be engaged in. In many instances these indirect contributors may have borne the larger share of the tax directly contributed by the individual. For example, if in the grocery business insurance costs $1,000 per annum, this cost is distributed over the aggregate sales for the year and proportionately added to each article which passes over the counter and thereby collected from the consumer who buys a sack of flour, a peck of potatoes. a pound of coffee or sugar, or any other article of food. In the final analysis the largest consumer of articles of trade or commerce is in reality the largest contributor to the fire waste tax. This tax is collected in an indirect way and is in a sense very similar to a protection tariff. It is the application of indirection which makes the average person so indifferent about fire waste. and its actual cost. The fire loss in Pennsylvania in 1918 approximated $15,983,417, or approximately a per capita tax of about $2.50 for every man, woman and child in the State.

It is a well known fact that when the proposition is made to increase taxes for support of municipal or State Governments. or for various other purposes. which are supported by taxation, the public becomes disgruntled and resists bitterly the increase. regardless of how beneficial it may be for civic betterment, but seldom, if ever, do you hear a discussion on the fire tax. Imagine what would happen if after having paid the taxes on your property, and finding fault with the amount required to cover the tax that the collector should notify you that there was still due $25 or $50 to pay your proportion of the fire loss tax. You would probably refuse to pay and probably order him off the premises: but while you do not pay this to the tax collector. you are paying it—some pay more and some less; but all are contributing something. property owner and tenant alike.

Insurance Companies are simply agencies for the collection and distribution of the fire tax. and they must collect sufficient taxes to take care of losses. pay the cost of collection and distribution and have a fair margin, out of which to accumulate a reserve fund and a reasonable profit upon hazarded capital. It would seem that one of the most difficult things for the public to fully understand is the fact that insurance companies do not pay fire losses. They are simply agencies. employed by the public to collect premiums and distribute methodically and with legal responsibility the amount due to those whose misfortune it has been to lose property by fire.

The public should also appreciate the fact that the funds gathered by insurance companies, out of which losses are paid, come directly from the pockets of consumers of the country, and as all are consumers to a greater or less degree, all are affected, and everytime a fire occurs it means more tax with which to reimburse for the fire waste. When fire waste is high the tax is of necessity high and when the fire waste is low, the tax is low. Learn this, as it is the first lesson in fire prevention and that the efforts put forth for the reduction of fire waste will result in a saving of a least sixty-five per cent. This percentage represents the fires that occur caused by neglect or carelessness that can be prevented by the exercise of more careful and thoughtful methods. United endeavors to correct neglect or carelessness means a decided reduction in the fire waste, and a reduction in insurance tax means the saving of thousands upon thousands of dollars, allowing the amount now wasted to be used for improvement of property or pleasure.

Never in the history of the country has personal responsibility been heavier than at present. The alarm has sounded in regard to the shortage of production and the high cost of living. The merchant, through whose hands passes the larger part of the food supply of the country, is not entirely to blame. He is simply a distributing agent between the producer and the consumer, like the insurance companies who collect premiums and pay losses. If conditions grow worse, if shortage and high cost reaches an intolerable point, what is the remedy?

We answer, "Economy!" And here is where individual responsibility looms up and dictates prompt action. Do not waste; figure cost and live accordingly. By so doing you will detect where former leaks occurred and take measures to correct. You can prevent food and other wastage in the home and community by preventing fires that may destroy that which has been accumulated by saving and thrift. Organize a fire prevention committee to co-operate with the Bureau of Fire Protection and see that a systematic and frequent inspection is made of property to the end that fire danger may not accumulate. If by your efforts one half the preventable fire waste in Pennsylvania is eliminated it will be a wonderful accomplishment and will result in a large and profitable reduction of the fire tax and mean the saving of millions of dollars now lost in our National ash heap .

Disgraceful conditions permitted to exist representing thousands of dollars of wasted wealth. A menace to health and other property. Extremely hazardous. Remove them.

Accumulation of debris and fire breeding material "waiting" for a spark. Similar conditions in one year resulted in property loss of nearly $1,000,000.00. A thoughtful person will avoid this or correct it if it exists.

Fighting a $500,000.00 fire with inadequate equipment. One thousand persons thrown out of employment. Cause—Carelessness.

Remains of a thirty thousand dollar fire caused by carelessness, resulting in the loss of two lives. Carelessness is costly in both lives and dollars. Use care and conserve, both.

NUMBER OF FIRES REPORTED SHOWING VALUE OF PROPERTY LOSS AND INSURANCE.

During the Month of May, 1919.
(Exclusive of Philadelphia and Pittsburgh.)

Counties.	Number of Fires.	Estimated Value.	Estimated Loss.	Amount of Insurance.
Adams,	1	$275	$275	----------
Allegheny,	45	104,704	27,086	$82.550
Armstrong,	4	11,800	3,735	4,200
Beaver,	2	8,905	1.005	2,250
Bedford,	3	6,181	4.499	2,875
Berks,	26	298,146	8,141	189,359
Blair,	11	46,300	8,834	21,950
Bradford,	11	45,475	3,956	25,300
Bucks,	5	15,500	4,310	8 650
Butler,	5	7,800	1,601	7,050
Cambria,	3	12,955	85	9,500
Carbon,	20	158,275	102.961	53,200
Centre,	3	10,253	4,530	6,700
Chester,	9	67,350	1,935	57,700
Clarion,	3	4,500	932	2,750
Clearfield,	7	15,350	3,093	5,150
Clinton,	3	8,550	3,997	4,350
Columbia,	2	1,600	35	1,200
Crawford,	11	35,100	6,437	22,900
Cumberland,	4	13,600	5,527	9,440
Dauphin,	13	85,100	7,905	35,300
Delaware,	13	66,400	19,068	45,750
Elk,	1	1,500	10	1,500
Erie,	38	237,155	4,040	161,450
Fayette,	4	6,150	2,814	4,550
Franklin,	4	8,550	2,235	2,150
Indiana,	8	34,700	5,077	14,400
Jefferson,	5	12,700	6,421	3,050
Lackawanna,	50	210,127	49,764	145,000
Lancaster,	15	22,370	3,078	14,355
Lawrence,	1	1,500	7	1,500
Lebanon,	3	2,469	793	1,845
Lehigh,	6	10,880	2,509	10,100
Luzerne,	24	217,230	7,143	35,742
Lycoming,	12	28,250	14,012	15,005
McKean,	6	179,200	13,184	153,700
Mercer,	11	59,100	5,123	28,000
Mifflin,	4	13,000	2,276	11,900
Monroe,	2	2,700	1,690	1,800
Montgomery,	23	286,129	48,012	357,675
Montour,	1	1,400	350	500
Northampton,	4	20,100	1,635	18,200
Northumberland,	8	20,450	1,351	12,346
Perry,	1	500	20	190
Pike,	1	200	200	----------
Potter,	4	3,900	1,641	2,700
Schuylkill,	11	36,250	7,318	22,500
Somerset,	3	4,700	3,900	800
Sullivan,	2	6,600	186	4,400
Susquehanna,	2	2,450	1,495	1,495
Tioga,	4	8,300	3,184	2,700
Venango,	9	28,137	1,867	16,712
Warren,	4	6,365	2,470	4,700
Washington,	8	19,400	4,159	4,200
Wayne,	4	6,400	4,600	3,550
Westmoreland,	33	50,354	10,433	32,068
Wyoming,	1	2,700	1,600	450
York,	14	192,120	133,607	120.131
Total,	535	$2,704,075	$568,151	$1,809,979

MATERIALS USED IN CONSTRUCTION OF BUILDINGS DESTROYED OR DAMAGED BY FIRE.

During the Month of May, 1919.
(Exclusive of Philadelphia and Pittsburgh.)

Material.	Number of Fires.	Loss.
Brick,	86	$97,890
Brick and stone,	2	274
Concrete,	1	850
Stone,	10	6,336
Wood and frame,	409	416,205
Wood with brick or stone,	10	15,386
Unclassified,	15	8,170
Not reported,	2	23,040
Total,	535	$568,151

CLASS OF STRUCTURES DESTROYED OR DAMAGED BY FIRE.

During the Month of May, 1919.
(Exclusive of Philadelphia and Pittsburgh.)

Structures.	Number of Fires.	Loss.
Structures:		
Apartment houses, boarding houses, dwellings,	251	$81,907
Automobiles,	12	5,870
Bank and office buildings,	1	6,400
Barns and stables (city and town),	20	22,553
Billiard (pool) halls and bowling alleys,	1	5
Club, lodge and society rooms,	3	937
Cottages, club houses and season homes,	5	4,219
Farm crops in field,	1	250
Farm Property:		
Barns and stables,	17	24,208
Dwellings,	95	56,339
Outbuildings,	3	3,100
Garages, private,	7	14,355
Garages, public,	3	43,941
Hotels,	6	559
Incubators and brooders,	1	750
Livery and sale stables,	1	247
Manufacturing and Industrial Establishments:		
Abattoirs and slaughter houses,	2	1,211
Bakeries,	1	5
Blacksmith shops,	1	175
Bottling works,	1	600
Brick and clay works,	2	3,900
Carpets and rugs,	1	60
Cleaning and dyeing,	1	182
Coal and wood yards,	1	2,000
Cobblers,	1	3,575
Glass,	1	362
Hosiery and knitting,	1	46,500
Iron and steel, blast furnaces, foundries, rolling mills,	2	212
Metal—miscellaneous,	1	2,000
Miscellaneous,	3	8,217

CLASS OF STRUCTURES DESTROYED OR DAMAGED BY FIRE.

During the Month of May, 1919.
(Exclusive of Philadelphia and Pittsburgh.)

Structures.	Number of Fires.	Loss.
Paper and pulp,	1	125
Planing mills,	1	23,000
Printing establishments,	2	64
Saw mills,	4	6,812
Smoke houses,	1	100
Mercantile Establishments:		
Automobiles and accessories,	2	55
Department and general stores,	4	368
Groceries,	6	849
Hardware,	1	7
Meats,	2	10,479
Men's furnishings,	1	20
Miscellaneous with dwelling occupancy,	26	29,366
Restaurants,	1	50
Wholesale and retail groceries and fruits,	1	10,100
Miscellaneous,	12	5,391
Miscellaneous,	1	2,000
Outbuildings (city and town),	10	2,658
Railroad (steam) Property:		
Bridges,	1	50
Freight rolling equipment,	1	150
Road houses, saloons and taverns,	1	4,500
Schools, public,	4	56,733
Ships, steamers, vessels,	1	40
Theatres and motion picture houses,	2	700
Warehouses and Storage:		
General storage,	1	175
Ice,	1	10
Tobacco,	1	79,700
Total,	535	$568,151

CAUSE OF FIRE AND LOSS INCURRED.

During the Month of May, 1919.
(Exclusive of Philadelphia and Pittsburgh.)

Cause.	Number of Fires.	Loss.
Adjoining fires,	47	$78,046
Ashes (hot)—careless disposal,	2	466
Backfire,	5	2,889
Candle carelessness,	5	268
Chimney, flues, stacks—defective and overheated,	34	26,906
Cigars and cigarettes (lighted), carelessly discarded,	16	81,362
Clothing and curtains exposed to contact with stove, heating appliances and unprotected lights,	18	291
Coals (hot), falling from stove, furnace or fireplace,	4	46
Cooking appliances (electric, gas, alcohol), carelessly used,	2	41
Electric, flat and gas iron carelessness,	7	167
Electric wiring, defective,	14	48,944

CAUSE OF FIRE AND LOSS INCURRED—Continued.

During the Month of May, 1919.
(Exclusive of Philadelphia and Pittsburgh.)

Cause.	Number of Fires.	Loss.
Explosions:		
Alcohol, gas and oil lamps,	6	531
Alcohol, gas and oil stoves and heaters,	9	9,349
Coal oil and kerosene—starting fires and filling lamps and lanterns,	3	130
Gas leak,	5	3,475
Gasoline, benzine, naphtha—careless use and cclaning with, exposed to fire or unprotected lights.	7	8,323
Oils (inflammable), ignition,	3	2,149
Field and forest fires,	1	200
Fireplace—defective or overheated,	2	331
Fireworks,	6	4,060
Fumigation,	3	60
Grease ignition on stove,	2	258
Incendiary,	11	22,836
Lamps and lanterns overturned,	7	2,321
Lightning (buildings not rodded),	3	3,465
Lightning (no report as to rods),	41	6,328
Matches—carcless use and keeping,	16	1,530
Matches—children,	12	6,092
Matches (lighted), carelessly discarded,	10	328
Metals (hot), asphalt, tar, pitch, wax, metal, etc., ignition of,	1	145
Miscellaneous,	9	785
Ovens (bakery), defective or overheated,	1	5
Plumbers' furnace—flareup,	1	5
Smoking—carelessness,	2	22
Smoking in bed,	3	111
Smoking meats,	1	25
Sparks,	3	160
Chimneys, flues, stacks, cupola—exposure, adjoining fires,	36	14,220
Fireplace,	2	84
Locomotive,	4	538
Running machinery (friction),	1	182
Rubbish and brush burning,	5	23,086
Stationary engines, tractors, etc.,	1	400
Spontaneous combustion,	4	3,324
Torch carelessness,	1	40
Tramps,	1	30
Undetermined,	151	210,089
Woodwork and furniture exposed to contact with stove, heating apparatus and unprotected lights,	7	3,726
Total,	535	$568,151

NUMBER OF INSPECTIONS MADE AND ORDERS ISSUED FOR REMOVAL OR REMEDYING OF FIRE HAZARDS.
(During the Month of August 1919.)

Buildings Inspected.	No. of inspections.	Removal of or general repairs to dilapidated buildings.	Removal of rubbish and waste accumulation and regulating proper disposal thereof.	Regulating proper storage of explosives (petroleum products, chemicals, powder).	Repair chimney or stovepipe connections.	Repair roof.	Repair defective wiring.	Change or repair heating arrangement.	Change or repair lighting arrangement.	Install fire extinguishers, sand or water buckets.	Close up openings in buildings.	Place metal or asbestos protection around heat appliances or installation of other fire retardents.	Miscellaneous—not classified.	Total No. of orders.	Orders not necessary.
Apartment houses, boarding houses, dwellings,	28	13	6	0	0	0	0	0	0	0	0	0	9	15	
Bank and office buildings,	15	0	0	0	0	0	0	0	0	0	0	0	0	15	
Barns and stables (city and town),	22	20	13	0	0	0	0	0	0	0	0	0	33	1	
Billiard (pool) halls and bowling alleys,	10	0	0	0	0	0	0	0	0	0	0	0	0	10	
Club, lodge and society rooms,	4	0	0	0	0	0	0	0	0	0	0	0	0	4	
Dance halls and pavilions,	1	0	0	0	0	0	0	0	0	0	0	0	0	1	
Farm Property:															
Barns and stables,	1	1	1	0	0	0	0	0	0	0	0	0	2	0	
Dwellings,	1	1	1	0	0	1	0	0	0	0	0	0	3	0	
Garages, public,	43	2	2	0	0	0	0	0	0	0	0	1	5	39	
Hotels,	14	0	0	0	0	0	0	0	0	0	0	0	0	14	
Jails, prisons, reform schools,	1	0	1	0	0	0	0	1	0	0	0	0	2	0	
Junk shops and yards,	6	3	5	0	0	0	0	0	0	0	1	1	0	10	1
Livery and sale stables,	5	2	1	0	0	0	0	0	0	0	0	0	3	3	
Manufacturing and Industrial Establishments:															
Acids and chemicals,	1	0	0	0	0	0	0	0	0	0	0	0	0	1	
Automobiles and accessories,	2	0	0	0	0	0	0	0	0	0	0	0	0	2	
Bakeries,	22	1	2	0	0	0	0		0	0	0	0	3	20	
Blacksmith shops,	3	1	1	0	0	0	0	0	0	0	0	0	2	2	
Bottling works,	1	0	0	0	0	0	0	0	0	0	0	0	0	1	
Box,	1	0	0	0	0	0	0	0	0	0	0	0	0	1	
Carpenter shops,	1	0	0	0	0	0	0	0	0	0	0	0	0	1	
Carriage and wagon,	2	0	0	0	0	0	0	0	0	0	0	0	0	2	
Cigars and cigarettes,	2	0	0	0	0	0	0	0	0	0	0	0	0	2	
Cleaning and dyeing,	4	0	0	0	0	0	0	0	0	0	0	0	0	4	
Clothing (men's), linens, hats, caps, gloves	2	0	0	0	0	0	0	0	0	0	0	0	0	2	

NUMBER OF INSPECTIONS MADE AND ORDERS ISSUED FOR REMOVAL OR REMEDYING OF FIRE HAZARDS.
(During Month of August, 1919.)

Buildings Inspected.	No. of inspections.	Removal of or general repairs to dilapidated buildings.	Removal of rubbish and waste accumulation and regulating proper disposal thereof.	Regulating proper storage of explosives (petroleum products, chemicals, powder).	Repair chimney or stovepipe connections.	Repair roof.	Repair defective wiring.	Change or repair heating arrangement.	Change or repair lighting arrangement.	Install fire extinguishers, sand or water buckets.	Close up openings in buildings.	Place metal or asbestos protection around heat appliances or installation of other fire retardents.	Miscellaneous—not classified.	Total No. of orders.	Orders not necessary.
Clothing (women),	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Cobblers,	19	0	1	0	0	0	0	0	0	0	0	0	0	1	18
Confectionery,	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Crockery, earthen ware, pottery,	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Feed and flour,	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Hosiery and knitting,	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Laundries,	12	0	0	0	0	0	0	0	0	0	0	0	0	0	12
Leather goods and saddlery,	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Lumber yards,	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Machine and repair shops—variety,	14	0	0	0	0	0	0	0	0	0	0	0	0	0	14
Mattress and upholstery,	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Metal—miscellaneous,	2	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Miscellaneous,	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Paper and pulp,	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Planing mills,	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Plumbing and tinning,	17	1	1	0	0	0	0	0	0	0	1	1	0	4	15
Printing establishments,	6	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Tobacco,	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Woolen mills,	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Express company office and rooms (R. R. service),	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Mercantile Establishments:															
Automobiles and accessories,	17	0	0	0	0	0	0	0	0	0	0	0	0	0	17
Barber shops,	19	0	0	0	0	0	0	0	0	0	0	0	0	0	19
Boots and shoes,	28	0	1	0	0	0	0	0	0	0	0	0	0	1	27
Confectionery and ice cream,	29	0	2	0	0	0	0	0	0	0	0	0	0	2	27
Department and general stores,	52	0	3	0	0	0	0	0	0	0	0	0	0	3	49
Drugs and medicines,	41	0	1	0	0	0	0	0	0	0	0	0	0	1	40

Electrical and gas fixtures and supplies,	6	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Florists,	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Flour, feed and hay,	4	0	1	0	0	0	0	0	0	0	0	0	0	1	3
General stores (rural),	7	0	1	0	0	0	0	0	0	1	0	0	0	2	6
Groceries,	197	2	14	0	0	0	0	0	0	0	0	0	0	16	181
Hardware,	36	0	5	1	0	0	0	0	0	0	0	0	0	6	31
Hats and caps,	1	0	0	0	0	0	0	0	0	0	0	0	0	2	26
House furnishings,	28	0	2	0	0	0	0	0	0	0	0	0	0	0	1
Jewelry,	13	0	1	0	0	0	0	0	0	0	0	0	0	1	12
Ladies' furnishings,	16	0	0	0	0	0	0	0	0	0	0	0	0	0	16
Leather goods and harnesses,	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Liquors and wines,	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Meats,	26	0	0	0	0	0	0	0	0	0	0	0	0	0	26
Men's furnishings,	39	0	3	0	0	0	0	0	0	0	0	0	0	3	36
Millinery,	15	0	1	0	0	0	0	0	0	0	0	0	0	1	14
Miscellaneous with dwelling occupancy,	9	2	2	1	1	0	0	0	1	0	0	0	0	7	4
Musical instruments and sewing machines,	6	0	1	0	0	0	0	0	0	0	0	0	0	1	5
Notions and novelties,	15	0	2	0	0	0	0	0	0	0	0	0	0	2	13
Photographers,	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Restaurants,	22	0	1	0	0	0	0	1	0	0	0	1	0	3	21
Stationery and wall paper,	10	0	1	0	0	0	0	0	0	0	0	0	0	1	9
Tailoring,	24	0	2	0	0	0	0	0	0	0	0	0	0	2	22
Tobacco and cigars,	23	0	0	0	0	0	0	0	0	0	0	0	0	0	23
Undertaking,	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Wholesale and retail groveries and fruits,	25	0	5	0	0	0	0	0	0	0	0	0	0	5	20
Miscellaneous,	42	1	5	0	0	0	0	0	0	0	0	0	1	7	37
Miscellaneous,	3	0	1	0	0	0	0	0	0	0	0	0	0	1	2
Motorcycles,	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Outbuildings (city and town),	16	15	8	0	0	1	0	0	0	0	0	0	0	24	1
Schools, public,	1	0	1	0	0	0	0	0	0	0	0	0	1	2	0
Telephone and telegraph exchanges,	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Theatres and motion picture houses,	9	0	0	0	0	0	0	0	0	0	0	0	0	0	9
Warehouses and Storage:															
General storage,	16	5	4	0	0	0	0	0	0	0	0	0	1	10	10
Household furniture,	3	1	0	0	0	0	0	0	0	0	0	0	0	2	1
Totals,	1,105	72	103	2	1	2	1	2	1	1	2	3	4	194	966

WOMAN'S AID ESSENTIAL IN THE PREVENTION OF FIRES.

The fight against fire consists of two branches: prevention and extinguishment. It is in the prevention of fires that woman can render the greatest assistance. If the erection of a new home is contemplated, select a reputable architect, and insist that he plan it so that it will be built from the ground up, in a way as near fire proof as possible, and at least what is known as "slow burning." Employ a competent and reliable builder and see that local inspectors, both building and electrical, keep in touch with the progress of construction and demand that the specifications be carried out, and that chimneys, flues and electrical wiring be in accord with methods that will avoid possible danger from these dangerous sources. After your home is completed and occupied, it is incumbent on you to see that dangerous hazards are not permitted. Remember that good housekeeping is the best preventive of fires.

If the home is already erected or you are an occupant of another's property, as a tenant it is no less your duty to afford every protection of fires. Call in the building and electrical inspectors and have them make an examination of chimneys, flues and wiring and, in fact, let them make a thorough inspection of the entire premises and welcome and carry out any suggestions they may deem necessary for the safeguarding of the property against fire. You perhaps do not realize what a preventive measure inspection has proved to be. When suggestions for betterment of conditions have been fulfilled, many things that are useless and of a hazardous nature are probably stored away in either the cellar, attic or packed in some closet and are inviting disaster from spontaneous combustion, or by the act of some careless person and the handy, but expense breeding match, jeopardizing a home that may be worth thousands of dollars by permitting a lot of worthless junk to be stored away in out-of-way places. By all means, keep every part of the premises clean, for by so doing, you are hitting the fire demon a severe blow, as most fires in the home start from accumulations and are enabled to get a good start before being discovered.

As an extra precaution against fire, equip each floor with an extinguisher and instruct the household in their use. Do everything possible to prevent fire in the interest of conservation of property and the saving of life.

TEACH THE CHILDREN FIRE PREVENTION.

Safeguard Their Lives.

Fire prevention is a most interesting study and children will delight in the teaching. Drill them at home and in the schools. Nothing appeals to children more than the military feature of drilling and when once they are made to realize the benefit of knowing how to protect themselves, in case of fire, it will relieve the minds of the parents, many of whom worry while children are not directly under their personal charge. The knowledge gained by the lessons in fire prevention, will also enable the children to better care for themselves in time of other danger.

Parents should not hesitate to acquaint themselves with fire prevention methods and in the teaching of children, always practice what they teach. Knowledge in fire prevention means the saving of life and property. Sixty-five per cent of the fires that occur are caused by carelessness and are absolutely preventable. Of the fourteen thousand seven hundred and fifty (14,750) fires reported to the Department in one year, the following causes given were of a preventable nature, and care should be used in the endeavor to lessen such causes; accumulation of rubbish; burning rubbish near buildings; tar boiling over; careless handling of candles and lamps; careless throwing about of cigar and cigarettes stubs, and matches; hanging clothing too near stoves and over stovepipes; defective flues and badly constructed chimneys; defective electric wiring and appliances; explosion of fire works; gas explosions; leaking gas; heaters and stoves; draperies too close to gas jets; leaking gas pipes; gasoline explosions; hot ashes thrown near fences and buildings; filling oil stoves and lamps when lighted; kindling fires with kerosene oil; oily rags and waste; spontaneous combustion; overheated stoves and heaters; parlor matches; children playing with matches; smoking in bed, and in and around barns; grease or lard boiling over; open fireplaces; mice gnawing matches; hot coals falling on floor; and incubators and brooders.

Help to reduce the fire losses in this State. By the interest taken in other states in fire prevention, fire losses have been reduced fifty per cent in one year. Help this Department to do even better by your assistance, in the preservation of the lives of the little ones.

BETTER AND SAFE SCHOOL BUILDINGS.

Why should school houses not be built absolutely safe as against the danger from fire?

The record of the last three years of fires occurring in school houses, entailing not only the destruction of property, but what is more important—loss of life, is disgraceful and unnecessary and the investigation into the reasons for this loss shows that the method of construction is the prime cause for such disasters. This being so, why continue building to burn? Why not at once throughout the entire State adopt a plan for the building of school houses that will preclude the possibility of, not invite disaster?

The safe school house will not vary much from well constructed buildings built for the housing of people, the same principles governing good sound construction should be applicable to both.

School buildings, however, on account of the youth and inexperience of their occupants, and the consequent tendency to panic upon the slightest provocation, involve problems in plan, arrangement and construction encountered in no other type of building.

School buildings, though playing perhaps the most important part in the development of our people, have been and still are in a great measure sadly deficient.

It seems strange that such conditions should exist in buildings devoted to the housing and education of the young, but the truth of this statement must come home to all who have had to do in any manner with the management or survey of school buildings. Why such conditions are tolerated seems difficult of explanation, except on the grounds of sheer ignorance of the requirements, or disregard of them in the interest of false economy. It requires a considerable jolt generally to awaken the public interest and conscience. Although the lessons of Collinwood and other similar disasters have been costly in the extreme, they have not been without their compensation in

arousing the public and school authorities everywhere to a full realization of the conditions prevalent in our schools. The investigations which have followed these disasters warrant the assertion that fire protection in existing school buildings—and when we say existing buildings we mean buildings built some years previous to this time—is needed generally throughout the country, and such investigations have in some instances brought substantial results. The results in a great number of cases, however, have been more in the direction of means of escape from fire and legislation to enforce the same, than in safe building and a permanent movement looking to fire protection.

Boards of Education, yielding to popular demand and the clamor of the public press, have been satisfied to erect buildings with questionable means of exit, inadequate stairways of combustible construction, and one or more fire escapes, which are believed to be all that is required for the safety of their occupants in case of fire. The success of such means of exit, when the trial comes and the pupils are in a panic, is very questionable.

After an extensive study of the matter, the best authorities agree that there should be no fire escapes on the ideal school building, but that ample and well located inside stairways are the only means of emptying school buildings promptly and safely, and that this, together with making the buildings, both old and new, immune from fire through the application of modern methods, should be the aim of all school authorities. However, alarming as these statements appear to be, such conditions are rapidly disappearing. We are no longer satisfied with the buildings of twenty years ago. Some one has said that this is the age of school houses: there are great activities in education everywhere. Manual training and vocational courses are being introduced, demanding power plants and special equipment. In almost every community, movements for educational and social betterment are under way, and the school, being the logical center of such activities, must improve and enlarge to meet the greater demand.

Along with the community uses of the schools, public attention is being directed everywhere to hygiene, sanitation, proper heating and ventilation, and the natural lighting of our schools. In the consideration of the more complex problems, therefore, is it not high time to bring the safety standards of our buildings more in line with the enlarged uses and the greater educational needs?

It is held by many that the proper protection against fire can be had only through the use of fireproof materials, but all school buildings cannot be erected fireproof, nor is it necessary that they should be to make them safe, if proper methods of construction are employed. Where funds will not permit the erection of fireproof buildings, it will require but a small additional outlay to fireproof the corridor, floors and stairways, and, where it is good practice, to separate the boiler and heating plant from the building. It is not absolutely necessary that this be done, for, at a small additional expense, such rooms can be isolated in a manner to eliminate all danger.

School buildings should be fireproof whenever funds will permit, but while this practice should be encouraged generally, the safety of our building depends quite as much upon its general plan, the location of its stairways, corridors, and exits, the disposition of the rooms, its height, and the site upon which it is located.

The site should be of such dimension that the building is reasonably safe from fire attack from adjoining structures; the necessity for proper lighting in itself should demand a large site, insuring such isolation, so that hazards from this source need no further comment.

The building should be low, preferably not more than two stories above the basement. This, of course, is not possible in large cities where buildings of three or more stories are required to provide the necessary accommodation. Such buildings are rendered safe by adequate stairways and exits, and the most modern fireproofing methods, but they are the exception and not the rule.

If large in plan, the floor areas in the buildings should be reduced by masonry walls, thus limiting the areas open to fire. The stairways, ample in number, should be located in a manner to reduce horizontal travel distance from class room to exit, and the exit should terminate at the street or yard level, and practically outside of the building, in order to obviate passing through halls or corridors before reaching the open air.

This system of school planning is well recognized on the European continent, not only as one offering maximum safety from the disposition of the class rooms in relation to corridor stairway and exit, and the limited areas open to fire, but as one offering all the advantages of perfect unilateral lighting.

Plans of schools in Berlin and in Stockholm, Sweden are splendid examples of maximum safety and simplicity, and are worthy of serious study by all school authorities. As a first consideration then, it may be noted that perfect lighting and safety may be made to go hand in hand in a properly arranged school plan, and that both of these important requirements are sure to be sacrificed as soon as the plan becomes involved.

A school in Berlin, a comparatively recent building erected by Ludwig Hoffman, city architect, is typical of all German, Prussian and Scandinavian schools, and it illustrates quite plainly the point which I am trying to impress upon you. These buildings are generally upon an inside lot. In most cases the buildings are directly upon the street, but the street is broad and there is considerable yard space, large enough in fact to make the gymnasium buildings, a residence for the janitor, and such other outbuildings as may constitute the equipment of a school. The building itself is a masonry building, and is divided by means of walls into three sections, masonry walls surrounding the class rooms and corridors. There is a central entrance, and two of the stairways give to the school yard and two to the street, the disposition of these stairways in relation to the building itself forming natural centers for exits for certain groups of rooms. This constitutes in itself a plan not only perfectly lighted from every standpoint, but a plan of a building that is eminently safe by reason of its arrangement.—National Fire Protection Association.

FIRE EXTINGUISHERS NEED ATTENTION TO PREVENT FREEZING.

To insure the efficiency of fire extinguishers and equipment during the winter weather it is recommended that non-freezing solutions be introduced as a preventive measure. The following is suggested for the guidance of those in charge of matters pertaining to fire prevention and protection:

1. Non-freezing Solution.

1. Sodium Chloride (common salt) Solution.
   (a) The addition of 2¾ pounds of salt (NaCL). commercially pure. to each gallon water will prevent freezing at temperature between 32 degrees Fahrenheit and 6 below zero.

(b) The salt should be added while the water is warm enough to dissclve it readily.

(c) For temperature above—6 degrees Fahrenheit this solution should be used in preference to the calcium chloride solution.

(d) The sodium chloride solution should never be used in metal containers as the solution tends to corrode the metal.

2. Calcium Chloride Solution.

(a) The calcium chloride solution should be used in water barrels only where the water would be exposed to temperatures below—6 degrees Fahrenheit.

(b) In preparing the solution commercially pure calcium chloride (CAC12) should be used. The following table shows the amount of calcium chloride to be used to each gallon of water according to temperature to which water is exposed.

Pounds per Gallon	Temperature
3½	above—11 degrees
4	11 degress to 19 degrees
4½	19 degrees to 29 degrees
5	29 degrees to 41 degrees

(c) The calcium chloride should be added while the water is warm enough to dissolve it readily.

(d) After the solution has been prepared it should be tested for acidity by the use of litmus paper. A piece of pink litmus paper should be placed in the solution. If the litmus paper remains pink, lime water should be added in small quantities. As the lime water is being added the solution should be agitated or stirred. The litmus paper test should be repeated until the paper changes to a blue.

(e) Lime water may be prepared by slacking ordinary lime with a considerable excess of water allowing the mixture to settle and using only the clear liquid above the undissolved lime.

(f) Calcium Chloride must not be used in wooden barrels or buckets unless they are given a heavy coating of asphalt paint or tar on the inside.

11. Use of Equipment.

1. Pails and water barrels.

(a) The use of pails and water barrels without non-freezing solution is recommended only where they will not be exposed to temperature below 32 degrees Fahrenheit.

(b) The use of pails and water barrels with sodium chloride non-freezing solution is recommended where they will be exposed to temperatures below 32 degrees but not below 6 degrees Fahrenheit.

(c) The use of pails and water barrels with calcium chloride solution is recommended where they will be exposed to temperatures below 6 degrees Fahrenheit.

(d) Where the sodium chloride solution is used, it is suggested that in order to prevent the possibiiity of the mixture creeping up over the edges of the barrel the upper two inches of the inner surface of the barrel should be given a coat of asphaltum paint or heavy grease.

(e) Where the sodium chloride solution is used it is essential that the metal portions of the barrel be well painted to prevent the salt solution from attacking them. The barrels should be well coopered to prevent the leaking of the salt solution, which would result in the solution attacking the hoops from the under side.

(f) The sodium chloride solution should never be kept in metal fire pails or other metal containers.

(g) Wooden barrels and buckets used as containers for the calcium chloride solution should be given a liberal coating on the inner surface with a good quality of asphaltum paint, which will dry in two or three hours. Barrels and buckets should be emptied, thoroughly cleaned and dried before the paint is applied.

2. Hand Pump Tank Extinguishers (5-gal).

(a) Hand pump tank extinguishers without non-freezing solution are recommended for use only when they will not be exposed to temperatures below 32 degrees Fahrenheit.

(b) Hand pump tank extinguishers with non-freezing calcium chloride solution are recommended for use where they will be exposed to temperatures below 32 degrees Fahrenheit. Sodium chloride should not be used with hand pump tank extinguishers.

(c) *Important.* Before the extinguishers are filled with the calcium chloride solution they should be thoroughly emptied. completely dried, and given a liberal coating on the inside with a good quality of asphaltum paint, which will dry in two or three hours. The paint film should thoroughly cover the metal surfaces at all points except the interior of the pump barrel valves, etc.

(d) After the paint coating has been permitted to dry the pump should be oiled in the inside by removing the packing nut at the top without disturbing the packing. A medium grade of lubricating oil should be used.

(e) Particular care should be exercised to insure that the screen at the base of the pump barrel is not covered with paint nor the foot valve of the pump clogged.

(f) The pump must be tested to ascertain whether it works properly and effectively before the extinguisher is put in place. This can be done by operating the pump with a supply of the solution, discharging the contents from the nozzle into the extinguisher and noting whether a strong solid stream is being delivered.

(g) The exterior of the extinguisher should be protected with a coating of paint of standard red color, using a good grade of linseed oil lead and zinc paint.

(h) The extinguisher should be filled with the calcium chloride solution to within three inches of the top.

3. Soda acid and foam type extinguishers.

(a) Soda Acid and Foam type extinguishers are recommended for use, where this type of extinguisher is suitable, in all situations where they will not be exposed to temperatures below 32 degrees Fahrenheit.

(b) Soda Acid and Foam Type Extinguishers are not, under any circumstances, recommended for use in locations where they will be exposed to temperatures below 32 degrees Fahrenheit.

(c) Soda Acid Extinguishers *must not* be charged with non-freezing solutions of any kind.

4. Carbon Tetra-Chloride Type Extinguishers, (one quart type).

(a) Carbon Tetra-Chloride extinguishers are recommended for use under all temperatures conditions, but should only be used where this type of extinguisher is effective.

5. Inspection and test during cold weather.

(a) In addition to the regular inspections and tests, all equipment should be carefully inspected and tested immediately following an unusual fall of temperature to determine whether the solution is frozen.

Note———The above mentioned equipment will normally be used without non-freezing mixtures, except during the winter season. Preparations should be made in advance to meet weather conditions that may reasonably be expected. Those in charge of matters pertaining to fire prevention and fire protection should acquaint themselves with weather conditions which they may reasonably be expected to meet at this station.

MONTHLY BULLETIN

"MAKE PENNSYLVANIA FIREPROOF"

Department

OF

STATE POLICE

OF

Pennsylvania

BUREAU OF FIRE PROTECTION

OFFICE---ROOM 166
Capitol Building, Harrisburg, Pa.
HOWARD E. BUTZ, Chief of Bureau

VOL. VI NOVEMBER, 1918 No. 44

The Bureau of Fire Protection gratefully acknowledges its appreciation to those who responded to and co-operated with the Bureau in its campaign of fire prevention launched on Fire Prevention Day, Thursday, October 9th, 1919.

It is hoped that the same serious thought and purposes, so generously shown, will be continued throughout the year so that life and property may be conserved and protected from the curse and evil of fire.

Vol. VI No. 44

Monthly Bulletin

Department

OF

STATE POLICE

OF

Pennsylvania

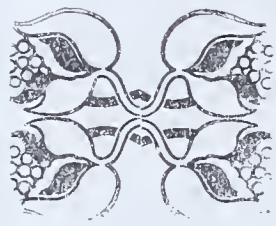
BUREAU OF FIRE PROTECTION

HOWARD E. BUTZ, Chief of the Bureau

BULLETIN OF INFORMATION FOR THE PUBLIC

NOVEMBER, 1919

HARRISBURG, PA.:
1919.



WHAT WILL IT AVAIL?

October 9th, 1919, set apart in nearly every state of the Union by either the proclamation of the Governor, or by other means by those in authority and designated as "Patriotic Fire Prevention Day," has passed into history, and it is hoped that the lessons taught and advice given in its observance will effectually arouse the public to a realization of the necessity of relieving the nation from the scourge which annually costs the lives of 15,000 fellow Americans and the destruction of more than a quarter of a billion dollars worth of national resources.

The newspapers throughout the State, which possibly exceed even the schools themselves as an educational force in every community, by guiding judgment and molding the opinions of its citizens in recognition of the vital importance of conservation, responded to the call for action in a most gratifying manner and with a nobility of purpose by the donation of a liberal amount of space in the disseminating of knowledge of effective means to combat the growing evil of destruction by fire. This was done in an effort to awaken the public to its duty in the removal of the causes of fire and in the prevention of fires by bringing together the constructive and conservative element in every community and uniting in the effort to eliminate the short-sighted, self-limited view of personal responsibilty whch has been getting the world in trouble for a thousand years, and will continue to do so until people gain a new and true viewpoint by the celebration of three hundred and sixty-five fire prevention days every year, and another day for good measure whenever leap year comes along. When this is done fire losses will be materially reduced and the fire tax, which affects every one and is now collected as the result of the continuance of criminal carelessness, which is accountable for the majority of fires, will cease; and personal responsibility enforced, carrying with it a heavy penalty for an offense committed against the community. As an evidence of the seriousness of the situation and the need of immediate and active participation by EVERYBODY

in correcting conditions, the PUBLIC PRESS has been, and is, doing its part in its advocacy of the prevention of fires, by the removal of the cause and the adoption of corrective measures, as herein quoted in extracts taken from publications from nearly every portion of the State. It will be profitable to give thought, accept and act on the advice given which is in the interest of preventing fires, conservation of resources, reduction of taxes and the high cost of living.

Philadelphia Press.—Amazing testimony of human carelessness is revealed in the official statistics of fire losses for last year. Twelve thousand fires for one State—Pennsylvania—is indeed a bad record and $15,000,000 a rather costly expense account for spectacular accidents, most of which could have been prevented. We are prone to resent the reiteration of advice, especially when it takes the form of "Be careful!" But, in this case, the age of proffered counsel should not blind us to its vitality.

Citizen, Honesdale.—Fire Prevention Day should not be disregarded. It is an attempt to hold down and remove one of the great curses of civilization. Fires are part of the cost of living. Most people have the notion that once they have insured property, they need not worry to take care to prevent fire. This spirit leads to the relaxation of precaution and makes fires common.

Pittsburgh Dispatch.—City to Give Thought to Fire Prevention Today. The committee has done its work. The matter is now up to the public and the officials and the committee hope that their work will be appreciated by the people in this great civic movement, and that every man, woman and child in the city of Pittsburgh and Allegheny County, will give some thought and attention to fire prevention and do something towards eliminating the fire hazard; the danger and destructiveness of which is apparent to all.

Express, Lock Haven.—Carelessness is the most frequent cause of fires and it takes only a small one in the beginning to cause all sorts of damage, not only to one's property, but to others. The majority of people leave the matter of fire prevention completely to the fire departments of the city; and although they are at the service of the public whenever needed, their service would not be needed so often if each boy and girl and each grown person realized that he or she

was the most important factor in prevention of fires, and not only realize this responsibility but assume it conscientiously.

Republican, Meadville.—Statistics show that in the United States 15,000 persons are burned to death each year, while property loss during the same period is estimated at $300,000,000, or a per capita of $2.63. That many lives might be saved by due care and hundreds of dollars worth of property saved from destruction is self-evident. Many fires are preventable, authorities say, more than half, and it is well worth while to consider the matter and to do what may be done to lessen the danger of fire in our homes and places of business.

Bulletin, Latrobe.—People don't owe to merely themselves to safeguard their property from danger of fire by heeding the principles of fire prevention. They owe it to their neighbors and to their community, because when a fire breaks out there is no one who can tell where it will end. It is manifest that through the exercise of carefulness upon the part of everybody, Pennsylvania fire losses could be reduced in a most material fashion.

Journal, Corry.—All residents of the city are urged to co-operate in making a success of fire prevention.

News, Lebanon.—During the war we were all engaged in the prevention of waste of food, clothing, etc., affecting the body. Now let us all engage in the prevention of waste by fire, disease, etc., affecting the community.

Press, Easton.—Mr. Citizen, walk out into your back yard, see whether there is any accumulation of inflammable material lying around there—something, should it get afire, might readily communicate the flames to your home. Ere long the wind will drive a lot of dried leaves into that rubbish, which will make it a still more ready prey for sparks or flames. Easton should be cleaner.

Enterprise, Belle Vernon.—It is suggested that the householder examine his premises with a view of removing all waste accumulations and correcting fire hazards.

News Herald, Braddock.—Think and act. Remove from premises accumulations likely to invite fire loss. Waste affects the cost of living.

Telegraph, Sharon.—Fire invariably originates through a combination of circumstances so manifestly clear that exercise of common sense would devoid virtually all possibilities of its occurrence. By eliminating this combination, fire does not start and the process is nothing more than the application of forethought and carefulness to our buildings, premises and equipment therein. It is in this application that your individual responsibility and cooperation are essential.

News, New Castle.—Every person in the city is asked to clean up every possible thing that might in any way cause fire. Persons failing to pay attention to this request for a clean-up of all fire hazards will find themselves in an unfavorable situation, as all bad hazards will be checked up by the fire authorities and those having such hazards about their homes or places of business will be forced to act.

Times, Norristown.—The object of fire prevention is to arouse the people to the magnitude of fire waste and induce them to take more interest in prevention.

Democrat, Clarion.—Everybody in the community should inspect their homes or business places and correct any defects or dangerous places; and all public institutions should make careful examination of buildings; and all people should think about decreasing the danger of fire by cleanliness and carefulness about property.

Press, Johnsonburg.—It would be a good plan for the Chief of the Johnsonburg Fire Department and his assistants, or some one delegated by him, to visit all alleys and premises in town and order places cleaned of accumulations of rubbish that might be classed as fire risks.

Pittsburgh Sun.—Property destroyed annually totals $300,000,000, and 15,000 persons are said to meet death by flames every twelve months. It is a record in which we take no pride, especially in view of the painful fact that fires originate as a result of carelessness or slothfulness. Rubbish piles, mice and matches and ramshackle buildings are a frequent source of flames. Commendable work will be done and perhaps thousands of dollars saved to Pittsburgh if citizens generally will clear their property. But it should be remembered that still more important is the maintaining of active interest.

Record, Ridgway.—Fires are part of the cost of living. Most people have the notion that once they have insured their property, they need not worry to take care to prevent fire. This spirit leads to the relaxation of precaution and makes fires common. Firemen and insurance men should keep in close touch with business men and conduct a campaign of education, leading them to remove fire hazards. By public education on this subject the fire loss could be reduced seventy-five per cent.

Times, Erie.—Local authorities will make special efforts in various ways to impress upon the public the necessity of fire prevention in order that the annual enormous losses may be cut down to some extent. The Erie Fire Department, working in conjunction with the State Commission, is constantly increasing safeguards and preventive measures and lays emphasis upon the necessity of doing away with the cause, rather than trying to extinguish the flames once the blaze starts.

Tribune, Johnstown.—Particularly since the war the people of the United States have been interested in preventing waste and they have begun to compare the fire loss of this country with that of Europe. Our rate is a great deal higher and experts have declared that a large majority of the fires which each day destroy thousands of dollars worth of property, as well as many lives, are needless. It is believed that the national interest which is being aroused will tend to materially decrease the loss.

Herald, Elizabeth.—The money loss from fire in this State alone amounted in the year 1918 to the enormous sum of $20,983,417. Extensive investigation and study of the causes of the fires aggregating this enormous loss showed that seventy-five per cent. were strictly, or partially, preventable, indicating that carelessness and the lack of individual responsibility were solely responsible. This record should awaken our people to the disasters and menaces that are threatened in the element of fire.

Journal, Pottsville.—Everyone is asked to clean up all rubbish about their premises, and also have their chimneys cleaned as a prevention of fire. Every person should coöperate to aid in cleaning the city of fire menaces.

News, McKeesport.—Records, carefully kept, show that most fires result from carelessness. The authorities by proclamation and by other methods are urging exercise of greater care on the part of the people in general and business men and shop owners in particular. One great trouble with the people is that they do not take such things with the proper degree of seriousness. The citizen who maintains a clean establishment is a benefit to the community, and he who does not is more or less of a menace.

Notes, Canonsburg.—If one will take a walk over the town, not missing the private alleys and rear of many stores, he will find boxes and waste paper of an inflammable nature, which in case of a lighted match or spark falling among them would start a blaze in a moment. Let's clean up. Give the fire fiend no excuse for swooping down on us.

Record, Lititz.—A large portion of the fire insurance is paid on account of some one's carelessness, or neglect. Everybody should speak to their neighbors about fire danger and should help to reduce the fire losses of our State and our county. Think what the $500,000 would buy, which the people of Lancaster County have been paying yearly for fire losses, caused by carelessness and indifference.

News, West Chester.—Calling attention to the need of exercising care and teaching the youth of West Chester to be careful will not be amiss. Persons in these days are too careless with fire or inflammable material, etc. Insurance men in Chester County tell us that many of the mysterious barn or other fires are chargeable to the careless use of matches, the throwing down of cigarette or cigar stumps, etc.

Express, Pitcairn.—Make Pennsylvania Fireproof. The fire losses in our State increased from $12,899,145 in 1912 to $20,983,417 in 1918. Much of this loss was due to carelessness and State and local officials are expected to do everything possible to educate the people in ways of cutting down this big loss. There is much to be done in this line here.

Mirror, Warren.—Most of the fires reported to the State Bureau of Fire are preventable, and ought not to have occurred. In order to impress the idea firmly in the minds of Warren people, the insurance agencies of this city have united in an advertisement appearing

in the *Mirror,* that every person in the county should read. It shows appalling losses from fire and urges all to do their part in preventing a repetition of such losses.

Call Allentown.—The Chief of the Bureau of Fire Protection wants the support of newspapers, ministers, educators and all persons in business life, to bring the necessity for precaution against fire waste, to public attention and to aid in forming prevention committees.

Times, Beaver.—Firemen and insurance men should keep in close touch with business men and conduct a campaign of education leading them to remove fire hazards. There are plenty of these in the county, as well as everywhere else. The removal of rubbish, proper electric wiring, cleaning out of smoke pipes and chimneys, these and other means should be dwelt upon. By public education on this subject the fire loss could be reduced seventy-five per cent.

Times, Scranton.—In all cities and towns, efforts will be made to remove hazards which are to a great extent responsible for fires and which yearly cost hundreds of thousands of dollars in property damage and claim many lives as toll.

Globe, Bethlehem.—Extensive investigation and study of the cause of the fires aggregating enormous loss, shows that approximately seventy-five per cent. were strictly, or partially, preventable, otherwise, indicating that carelessness and the lack of individual responsibility were responsible. This should awaken the people to the disasters and menaces that are threatened in the element of fire and should stimulate the sentiment of co-operation, which, in fact, becomes an imperative public duty.

Inquirer, Philadelphia.—In spite of all that has been said and printed upon this subject, the fire losses in Pennsylvania have been increasing out of all proportion to the increase in property values. From 1913 to 1918 the fire cost in the Commonwealth has risen from $12,899,145 to $20,983,417. That would be bad enough but the fact that seventy-five per cent. of these fires are listed as entirely, or partly, preventable, makes it all the worse. In other words, millions of dollars in property have gone up in smoke because of carelessness. Discarded matches, cigars and cigarettes, probably cause more fires than anything else, and yet smokers are deaf to repeated warnings

and show an indifference that is appalling. Gasoline used for cleaning purposes is another prolific cause of fires in dwellings; while open-flame lights and swing lamps are a constant danger. It is never too late to mend. Make a good resolution and keep it. Permit no accumulation of waste or rubbish; keep chimneys in good condition; have electric wiring inspected; and give proper attention to furnaces and heating appliances. All of these things are simple enough and if they are observed will go a long ways toward making Pennsylvania fireproof.

Eagle, Reading.—Local fire records show that causes of fires in Reading range in the following order: sparks; burning of rubbish; defective flues; gasoline explosion; matches; defective chimneys; hot ashes; cigars and cigarettes; clothing or curtain striking flame, hot coals; electric or gas irons; defective wiring; defective stoves; lamps overturned; lightning; children playing with matches; spontaneous combustion; gas leak; thawing pipes; and exposed woodwork. As a result of the local fire prevention campaign, Reading fire losses this year will be $200,000 lower than in 1918.

Public Ledger, Philadelphia.—"Make Pennsylvania Fireproof" is being rapidly adopted throughout the State. Children are taught fire prevention in school. Factory employes are made familiar with fire prevention methods and shown the danger of carelessness. More than sixty-five per cent. of loss is due to carelessness.

Fire invariably originates through a combination of circumstances so manifestly clear, that exercise of common sense would devoid virtually all possibility of its occurrence. By eliminating this combination, fire does not start and the process is nothing more than the application of forethought and carefulness to buildings, premises, and the equipment therein. It is in this application that individual responsibility and co-operation are essential.

President Wilson has said:

"Preventable fire is more than a private fortune. It is a public dereliction. At a time like this * * * it is more than ever a matter of deep and pressing consequence that every means should be taken to prevent this evil."

A MUMMY HAS A GOOD EXCUSE.

A mummy cannot be blamed because he doesn't keep abreast of modern progress—for placid inactivity or failure to adapt himself to changed conditions. He doesn't have to worry about conservation of resources owing to the high cost of living, or the overhead expenses of the Pyramids, where his body lies, for he has been dead for some six thousand years, and that is a perfectly good alibi. He is not walking around consuming food, or occupying space that better men could use to good advantage. Today there are many living men who are as dead as a mummy, in as far as business or conservation of the public good is concerned, but are ever ready to furnish an alibi as to reason for living and failure to do something for the benefit of their fellow men.

THERE CAN BE NO ALIBI for any man in this progressive age that does not try to advance the interests of himself and neighbors by protecting both, when it comes to the prevention of fires which is digging so deep into the resources of the nation, and compelling a deeper digging into the pockets of the individual for the wherewithal to meet the high cost of living.

THERE CAN BE NO ALIBI for the man or men who can do, and won't do. Everyone can do something towards relieving the distressing situation caused by neglect and carelessness, by helping to change carelessness into carefulness. There is not much difference in the spelling of the two words, but carefulness as a substitute for carelessness means a saving of approximately $162,500,000 of property now destroyed annually and is a nation's waste not recoverable.

THERE IS NO ALIBI for communities that through lack of civic pride year after year allow the destructon of valuable property by fires that are preventable, and due to careless habits of its residents. No one person is responsible, but all alike are equally responsible for permitting such conditions to exist, and inviting fires, when by the inspection of property and the removal and destruction of waste, trash, rubbish, all fire breeders, and the giving proper attention to repairing and keeping buildings in good condition will have the effect of materially reducing the fire loss and consequently the tax levied to pay the insurance on property destroyed.

THERE IS NO ALIBI for neglect to assume that individual responsibility which belongs to every one in endeavoring to conserve the resources of the nation, or community in which they live, and particularly, in and about the home. It is due to self and neighbors to protect from fire one's own property, and see to it that there is no condition that might endanger the property of another. If this is done fire losses will be reduced, insurance rates decreased, and the amount now collected from all insurers to pay losses will also be decreased. It should be apparent to everyone that whatever increases the insurance premiums which goes to pay the fire losses, comes directly from the pocket of the public and adds that much more to the high cost of living.

Don't be a mummy. If alive, show it by fighting and forcing others to fight for the prevention of fires.

COSTLY CARELESSNESS ELIMINATED BY EDUCATIONAL MEASURES.

Waste of life and property by fire has for years been a heavy burden on the people of the State of Pennsylvania, the cost of insurance and protection has constantly increased and will not materially decrease until the fire waste decreases. No subject should arouse the general public to its own interest than that of the prevention of fires, which, heretofore, have been looked upon as a visitation that was unavoidable. This waste is preventable and controllable by the concerted action of State and municipal officials by proper regulation, and the co-operation of the people at large. This can be accomplished by a movement for the education of the public as to fire waste. Education should commence with the children in schools, of which there are approximately 1,500,000 in Pennsylvania, and they should be instructed in fire drills and the chemistry of fire. Lessons should be simple and cover the proper and improper use of matches, kerosene oil and oil stoves, gasoline and gasoline stoves, oil lamps, wicks and chimneys, stoves and stove pipes, heaters, fireplaces and grates, the

proper making and keeping of fires, construction and care of chimneys, the effect of sparks on shingle roofs, prevention and remedy, care of hot ashes, cause and effect of leaking gas, its danger and prevention, the possibility of grease, oil and oily rags causing spontaneous combustion; electricity, showing the dangers of defective wiring; how to celebrate a sane and safe Fourth of July, and dangers arising at Christmas holidays from the use of flimsy decorations, and lastly lessons in fire fighting.

The field for this work is ready and should be used, and its success means the attaining of active allies in fire prevention. Educate the children and in most communities the parents who have given no attention to this important subject will fall in line, and thus a vast army enlisted to fight for clean, wasteless, trashless communities will have been established, with an efficiency of greater magnitude than all the laws that can be enacted could produce. An educational campaign designed for success requires constant thought and active work to be far reaching in effect, and must be undertaken with a determination and object to carry it into every home and to enlist every individual as a worker and advocate for the prevention of fires.

Exhibitions by means of moving pictures or stereopticon should be given with lectures, calling the attention of the audience to the exact condition in their own locality, as compared with localities where the work for prevention is progressing, pointing out where improvements can be made by removal or repair of dilapidated buildings and the destruction of rubbish or other matter of inflammable nature.

Chambers of commerce, boards of trade, village improvement associations, which are generally composed of the public-spirited citizens who have the welfare of their community in view, if not already established, should be formed and invited to participate and aid in this great and beneficial work which means so much for public welfare.

Citizens, irrespective of their positions in a community, are directly and indirectly interested in fire prevention, and should give special encouragement and assistance in this work as they have both a selfish and public interest in the matter. Their selfish interest being the reduction in insurance rates, and their public interest the good of the community in which they live. Cleanliness, improvement and repairs to property and the protection of lives must surely appeal to everyone to put forth their best efforts for prevention of fires and the saving of lives and property.

While educating the public in fire prevention, the matter of proper fire protection and the training of those charged with fire fighting should not be neglected, but should be given close attention, not only in so far as apparatus is concerned, but to the sufficiency of the water supply, proper location of hydrants, and an adequate alarm system that will enable absolute knowledge of the exact location of a fire. In addition to the duty of fighting fires and of equal, if not more importance, should be the prevention of fires, which means the saving of thousands of dollars in the reduction in loss of property and the lessening in the cost of insurance. Members of fire companies should be instructed and the citizens of the community should make it a matter of such interest to them that the individual members of fire companies will familiarize themselves with the construction of the buildings in their respective districts, by frequent inspections of the same and report to the proper official as to the conditions of buildings, and whether by reason of their condition they are a fire menace and situated so as to endanger other property. Also report should be made of the accumulation of trash or rubbish in or around buildings that might cause fire, and action should at once be taken to have the same removed and destroyed, and the buildings or places put in a clean and safe condition.

Fire prevention should be the slogan of every fire company and work along that line should be vigorously pushed. The preparedness of companies for emergencies should not be neglected and some special member should be delegated to frequently see that pipes are properly flushed and that in winter time that hydrants do not freeze. A little attention, in this direction, may be the means of preventing what otherwise, might be a great loss of property.

You are probably familiar with the per capita fire loss in this country amounting in 1918 to $2.63 as compared with the average of 30 cents per capita in Europe, no doubt you have sought the reason for so great a difference. The construction of buildings in Europe are mostly of brick or stone, and in this country of wood, is one reason. The methods of obtaining insurance and the strict inspection of property to be insured, and the investigation of fires previous to the payment, by the insurance company to the insured, and the practicably impossibility of over insurance, which is a great incentive for the burning of many properties in this country, is another and a very important reason.

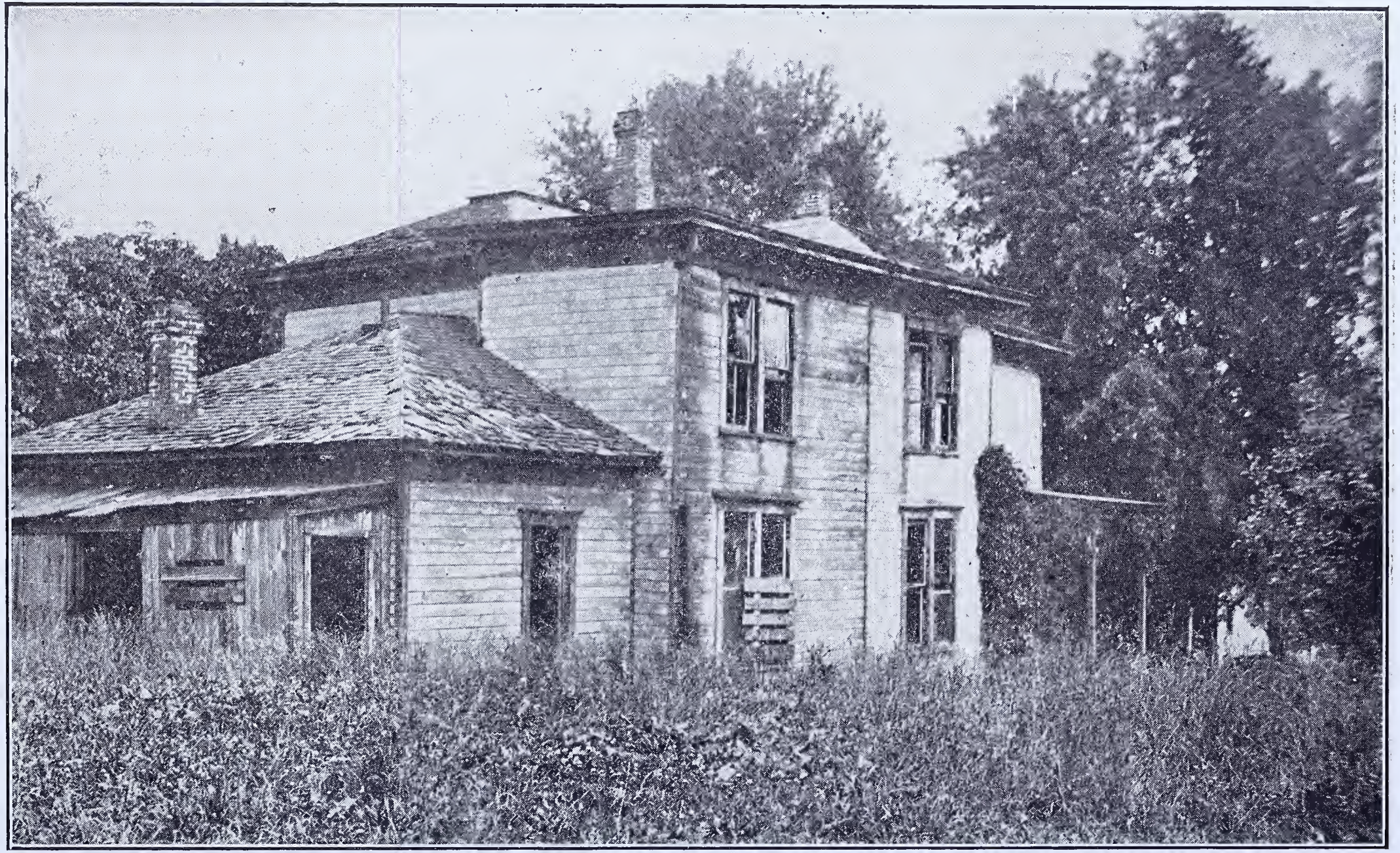
Consideration should be given by every community in its endeavors to prevent loss by fire to proper building laws prohibiting in so far as possible the erection of any structure, other than those built of fire resisting material. Architects estimate that at the present price of building material, fireproof structures can be erected at a cost not to exceed ten or fifteen per cent. more than non fireproof structures. When considering that the deterioration of fireproof buildings is about one per cent. as against four per cent. of ordinary buildings that they rent better, that money can be borrowed on them on easier terms, that the insurance is less, that they are vermin proof, cool in summer and warm in winter, it can readily be appreciated that it is much better and of self interest to build a fireproof building rather than one of a non fireproof construction.

Thousands of business men fail to safeguard their property, which strict economy and industry have created, nor do they give a thought to the protection of the lives of their employes. They probably carry insurance and in case of fire except to be refinanced from that source. But no insurance can restore lost trade, which becomes scattered as the inevitable result of fire loss. Nor can insurance bring to life the victims of the terrible scourge.

Fire prevention, fire insurance and business are closely related to each other, but, usually thought is expended on the latter disregarding prevention entirely. Business could not be conducted without fire insurance, if an attempt was made to do so, credit would be cut off as insurance is essential, being the basis of commercial credit and security back of all bonds and mortgages. Insurance being simply the indemnification for loss through fire funds contributed by others, or in other words, a large number of persons contribute small sums in order that such of them that would otherwise lose a larger amount through fire would receive in whole or part, the amount of their loss. Many manufacturers and merchants are under-insured and excuse themselves for neglect in carrying sufficient insurance on the excessive premium rates. Let fire prevention be before you in the conduct of your business, no matter how large or small it may be. For your activity in the prevention of fires means a reduction in insurance rates, as rates are based on the condition of property and surrounding. including construction of buildings, occupancy, water supply, lighting. area, police system, fire department, night watchman, pavements and width of and condition of street. You can aid in the

reduction in premiums by assisting and improving your city and the condition of your own property. Remove fire hazards and introduce fire preventive and protective measures, in order to eliminate destruction by fire.

Ignorance or carelessness may be responsible for permitting valuable property to deteriorate, but it is a reflection on the civic pride of any community and an invitation to the mischievous and evil-minded, to start fires which may spread to valuable properties. In the interest of fire prevention and conservation, if such conditions exist near your home, make an effort to remedy the same.



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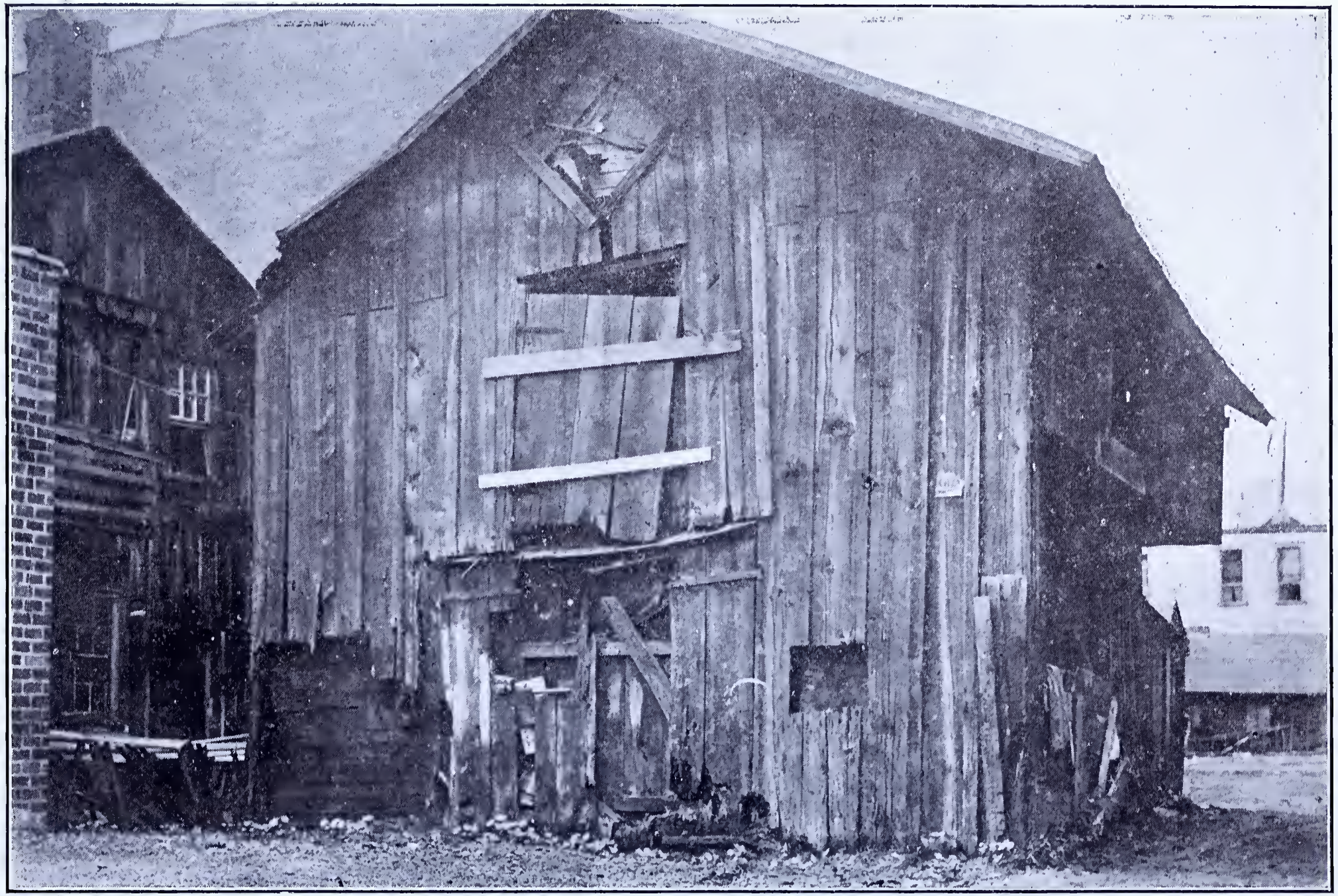

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NUMBER OF FIRES REPORTED SHOWING VALUE OF PROPERTY LOSS AND INSURANCE.

During the Month of June 1919.
(Exclusive of Philadelphia and Pittsburgh).

Counties.	No. of Fires.	Value.	Loss.	Amount of Insurance.
Adams,	1	$2,625	$1,235	$2,750
Allegheny,	98	306,553	39,225	216,550
Armstrong,	12	72,837	5,523	70,675
Beaver,	5	10,900	372	7,750
Bedford,	4	19,900	327	11,600
Berks,	25	378,010	2,019	311,500
Blair,	21	90,140	8,448	51,070
Bradford,	8	28,980	4,366	16,386
Bucks,	4	15,680	3,795	12,700
Butler,	6	30,850	4,590	5,950
Cambria,	13	32,680	4,294	22,000
Carbon,	1	500	12	300
Centre,	3	27,000	330	5,000
Chester,	11	13,640	5,653	8,305
Clarion,	8	19,382	11,399	9,400
Clearfield,	7	25,440	2,923	14,510
Clinton,	6	9,660	6,234	4,300
Columbia,	4	9,475	119	6,316
Crawford,	19	147,611	100,123	24,400
Cumberland,	4	8,600	938	5,800
Dauphin,	6	40,050	476	5,850
Delaware,	9	12,300	785	12,200
Elk,	2	2,500	29	1,500
Erie,	38	652,487	93,503	202,200
Fayette,	10	16,650	936	10,450
Forest,	2	1,050	200	200
Franklin,	4	10,000	379	9,200
Fulton,	1	1,600	1,600	1,000
Greene,	3	2,675	567	1,950
Huntingdon,	5	21,750	14,783	9,450
Indiana,	8	19,600	270	11,500
Jefferson,	12	21,875	610	13,850
Lackawanna,	58	136,795	12,656	95,495
Lancaster,	8	74,700	2,947	71,250
Lawrence,	3	16,500	4,071	13,600
Lebanon,	4	54,920	965	33,815
Lehigh,	7	60,500	2,955	17,400
Luzerne,	59	271,310	51,227	135,107
Lycoming,	18	177,351	6,868	129,585
McKean,	7	26,800	1,333	24,500
Mercer,	11	311,489	130,461	212,629
Mifflin,	3	5,200	1,055	3,200
Monroe,	1	4,500	235	2,500
Montgomery,	13	72,975	51,448	20,150
Northampton,	8	36,642	5,891	27,855
Northumberland,	15	206,550	12,613	156,500
Perry,	4	2,975	1,381	1,592
Potter,	3	6,150	5,306	2,250
Schuylkill,	19	71,577	20,516	51,320
Somerset,	5	20,800	927	13,700
Sullivan,	1	14,000	14,000	9,900
Susquehanna,	6	6,600	1,438	4,100
Tioga,	20	24,004	7,001	18,940
Union,	4	12,700	7,062	8,100
Venango,	24	161,695	8,039	118,500
Warren,	4	209,224	11,628	137,200
Washington,	35	108,396	49,723	60,331
Wayne,	2	3,400	414	2,100
Westmoreland,	23	54,833	7,058	37,650
Wyoming,	1	750	19	500
York,	17	82,433	29,235	49,545
Total,	743	$4,288,319	$764,835	$2,545,826

MATERIALS USED IN CONSTRUCTION OF BUILDINGS DESTROYED OR DAMAGED BY FIRE.

During the Month of June 1919.

(Exclusive of Philadelphia and Pittsburgh).

Material.	No. of Fires.	Loss.
Brick,	107	$220,279
Brick and stone,	1	14,000
Concrete,	5	29,365
Stone,	4	45,172
Wood or frame,	594	279,919
Wood with brick or stone,	8	118,159
Unclassified,	17	3,056
Iron covered (galvanized),	2	2,535
Not reported,	5	52,350
Total,	743	$764,835

CLASS OF STRUCTURES DESTROYED OR DAMAGED BY FIRE.
During the Month of June 1919.
(Exclusive of Philadelphia and Pittsburgh).

Structures.	No. of Fires.	Loss.
Academies, boarding schools, colleges, universities,	1	$112
Apartment houses, boarding houses, dwellings,	349	46,540
Automobiles,	10	2,285
Barns and stables (city and town),	29	25,115
Chapels and churches,	7	3,403
City and town halls, court houses,	1	54
Club, lodge and society rooms,	3	332
Cottages, club houses and season homes,	5	611
ELECTRIC RAILWAY PROPERTY:		
Car barns,	2	95,000
Stations,	1	18,000
Farm crops in field,	73	74,044
FARM PROPERTY:		
Dwellings,	117	35,589
Outbuildings,	5	1,231
Fire department houses,	1	18,000
Garages—private,	4	690
Garages—public,	5	34,885
Hotels,	7	17,609
Junk shops and yards,	2	8,330
Livery and sales stables,	1	400
MANUFACTURING AND INDUSTRIAL ESTABLISHMENTS:		
Acids and chemicals,	3	11,835
Aluminum,	1	1,812
Automobiles and accessories,	1	25
Bakeries,	1	30
Boots and shoes,	1	169
Bottling works,	2	600
Cigars and cigarettes,	1	1,700
Clothing (men's), linens, hats, caps, gloves,	2	12,660
Cobblers,	1	5
Furniture,	1	25
Ice cream,	2	287
Lumber yards,	4	11,705
Mattress and upholstery,	2	3,020
Metal—miscellaneous,	6	45,743
Miscellaneous,	6	38,020
Oil refineries and well works,	2	1,606
Paper and pulp,	2	43,025
Printing establishments,	1	100
Saw mills,	2	1,338
Coal mining property,	2	6,000
Gas works,	1	100
MERCANTILE ESTABLISHMENTS:		
Confectionery and ice cream,	1	150
Department and general stores,	2	19,125
Feed, flour and hay,	1	15,000
General stores (rural),	2	1,150
Groceries,	5	14,622
Ladies furnishings,	1	550
Miscellaneous with dwelling occupancy,	18	19,222
Musical instruments and sewing machines,	2	110,258
Restaurants,	2	3,252
Statoinery and wall paper,	1	550
Tailoring,	1	400
Tobacco and cigars,	1	5
Miscellaneous,	13	1,249

CLASS OF STRUCTURES DESTROYED OR DAMAGED BY FIRE—Continued.

Structures.	No. of Fires.	Loss.
Miscellaneous,	3	359
Outbuildings (city and town),	6	4,650
RAILROAD (STEAM) PROPERTY:		
Bridges,	1	40
Passenger stations,	1	25
Round houses,	1	10,134
Road houses, saloons and taverns,	2	25
Tanks (inflammable oils and liquids),	2	103
WAREHOUSES AND STORAGE:		
General storage,	10	1,931
Total,	743	$764,835

CAUSE OF FIRE AND LOSS INCURRED.
During the Month of June 1919.
(Exclusive of Philadelphia and Pittsburgh).

Cause.	No. of Fires.	Loss.
Adjoining fires,	32	$27,034
Ashes (hot)—careless disposal,	1	32,670
Backfire,	8	2,250
Candle carelessness,	2	39
Chimney—flues—stacks—Defective and overheated,	33	5,578
Cigars and cigarettes (lighted)—carelessly discarded,	5	561
Clothing and curtains exposed to contact with stove, heating appliances, and unprotected lights,	10	323
Coals (hot)—falling from stove, furnace or fireplace,	1	15
Cooking appliances (electric—gas—alcohol)—carelessly used,	1	10
Electric, flat and gas iron carelessness,	5	341
Electric wiring—defective,	8	22,669
EXPLOSIONS,	2	750
Alcohol, gas and oil lamps,	4	2,287
Alcohol, gas and oil stoves and heaters,	15	954
Gas leak,	6	509
Gasoline—benzine—naphtha—careless use and cleaning with exposed to fire or unprotected lights,	9	51,030
Oils (inflammable)—ignition,	2	35
Fireworks,	4	240
Furnaces, heaters, stoves, and their pipes—defective or overheated,	5	1,648
Fumigation,	2	19
Grease ignition on stove,	3	3,015
Incendiary,	5	3,104
Lamps and lanterns—overturned,	2	819
Lightning—(buildings not rodded),	55	114,545
Lightning—(no report as to rods),	296	107,931
Matches—careless use and keeping,	16	2,523
Matches—children,	21	6,043
Matches (lighted)—carelessly discarded,	5	2,205
Miscellaneous,	5	2,280
Smoking—carelessness,	2	60
Smoking in bed,	7	257
Smoking meats,	1	290
SPARKS,	1	25
Chimneys and flues, stacks and cupola (exposure—adjoining fires),	14	1,495
Locomotive,	7	1,547
Motors,	2	2,505
Running machinery (friction),	1	300
Rubbish and brush burning,	5	944
Stationary engines, tractors, etc.,	2	763
SPONTANEOUS COMBUSTION,	5	7,805
Torch carelessness,	3	3,327
Undetermined,	124	353,368
Vulcanizing,	2	436
Woodwork and furniture exposed to contact with stove, heating appliances and unprotected lights,	4	276
Total,	743	$764,835

NUMBER OF INSPECTIONS MADE AND ORDERS ISSUED FOR REMOVAL OR REMEDYING OF FIRE HAZARDS.

During the Month of September, 1919.

Buildings Inspected.	Number of inspections.	Removal of or general repairs to dilapidated buildings.	Removal of rubbish and waste accumulation and regulating proper disposal thereof.	Regulating proper storage of explosives (petroleum products—chemicals—powder).	Repair chimney or stovepipe connections.	Repair roof.	Repair defective wiring.	Change or repair heating arrangement.	Change or repair lighting arrangement.	Install fire extinguishers—sand or water buckets.	Close up openings in buildings.	Place metal or asbestos protection around heat appliances or installation of other fire retardents.	Total number of orders.	Orders not necessary.
Apartment houses, boarding houses, dwellings,	26	10	4	0	2	18	0	0	0	0	0	0	34	3
Bank and office buildings,	4	0	0	0	0	0	0	0	0	0	0	0	0	4
Barns and stables (city and town),	15	13	9	0	0	2	0	0	0	0	0	0	24	1
Billiard (pool) halls and bowling alleys,	4	0	0	0	0	0	0	0	1	0	0	1	2	3
FARM PROPERTY:														
Dwellings,	1	1	0	0	0	0	0	0	0	0	0	0	1	0
Garages—public,	23	0	1	0	0	0	0	0	0	1	0	0	2	22
Hotels,	4	0	0	0	0	0	0	0	0	0	0	0	0	4
Junk shops and yard,	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Livery and sale stables,	2	0	0	0	1	0	0	0	0	0	0	0	1	1
MANUFACTURING AND INDUSTRIAL ESTABLISHMENTS:														
Asbestos,	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Automobiles and accessories,	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Bakeries,	7	0	0	0	0	0	0	0	0	0	0	0	0	7
Bottling works,	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Carpets and rugs,	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Carriages and wagons,	3	0	0	0	0	0	0	0	0	0	0	0	0	3
Cement, concrete and stone,	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Cigars and cigarettes,	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Cleaning and dyeing,	2	0	0	1	0	0	0	0	1	0	0	1	3	1
Clothing (men's), linens, hats, caps, gloves,	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Coal and wood yards,	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Cobblers,	14	0	0	0	0	0	0	0	0	0	0	0	0	14
Cooperage,	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Feed and flour,	6	0	0	0	0	0	0	0	0	0	0	0	0	6
Hosiery and knitting,	3	0	0	0	0	0	0	0	0	0	0	0	0	3
Ice,	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Iron and steel, blast furnaces, foundries, rolling mills,	1	0	0	0	0	0	0	0	0	0	0	1	1	0
Laundries,	6	0	1	0	0	0	0	0	1	0	0	1	3	5
Leather goods and saddlery,	4	0	0	0	0	0	0	0	0	0	0	0	0	4
Machine and repair shops—variety,	8	0	0	0	0	0	0	0	0	0	0	0	0	8

NUMBER OF INSPECTIONS MADE AND ORDERS ISSUED FOR REMOVAL OR REMEDYING OF FIRE HAZARDS—Continued.

Buildings Inspected.	Number of inspections.	Removal of or general repairs to dilapidated buildings.	Removal of rubbish and waste accumulation and regulating proper disposal thereof.	Regulating proper storage of explosives (petroleum products—chemicals—powder).	Repair chimney or stovepipe connections.	Repair roof.	Repair defective wiring.	Change or repair heating arrangement.	Change or repair lighting arrangement.	Install fire extinguishers—sand or water buckets.	Close up openings in buildings.	Place metal or asbestos protection around heat appliances or installation of other fire retardents.	Total number of orders.	Orders not necessary.
Miscellaneous,	3	0	0	0	0	0	0	0	0	0	0	0	0	3
Oil refineries and well works,	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Paints, varnishes, oils,	5	0	0	0	0	0	0	0	0	0	0	0	0	5
Paper and pulp,	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Planing mills,	4	0	1	0	0	0	0	0	0	0	0	0	1	3
Plumbing and tinning,	6	0	0	0	0	0	0	0	0	0	0	0	0	6
Printing establishments,	7	0	0	0	0	0	0	0	0	0	0	0	0	7
Woolen mills.	4	0	0	0	0	0	0	0	0	0	0	0	0	4
Textiles,	1	0	0	0	0	0	0	0	0	0	0	0	0	1
MERCANTILE ESTABLISHMENTS:														
Automobiles and accessories,	5	0	0	0	0	0	0	0	0	0	0	0	0	5
Barber shops,	15	0	0	0	0	0	0	0	0	0	0	0	0	15
Boots and shoes,	18	0	1	0	0	0	0	0	0	0	1	2	17	
Confectionery and ice cream,	14	0	0	0	0	0	0	0	0	0	0	0	0	14
Department and general stores,	22	0	1	0	0	0	0	0	1	0	0	0	2	21
Drugs and medicines,	21	0	1	0	0	0	0	0	1	0	0	0	2	20
Electrical and gas fixtures and supplies,	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Florists,	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Flour, feed and hay,	3	0	0	0	0	0	0	0	0	0	0	0	0	3
General stores (rural),	10	0	0	0	0	0	0	0	0	0	0	0	0	10
Groceries,	96	1	5	6	1	2	1	0	2	0	1	1	20	86
Hardware,	15	0	0	0	0	0	0	1	0	0	0	0	1	14
House furnishings,	22	0	0	0	0	0	0	0	0	0	0	0	0	22
Jewelry,	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Ladies furnishings,	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Leather goods and harness,	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Meats,	11	1	1	0	0	0	0	0	0	0	0	0	2	10
Men's furnishings.	12	0	0	0	0	0	1	1	0	0	0	0	2	11
Millinery,	6	0	1	0	0	0	0	0	1	0	0	0	2	5
Miscellaneous with dwelling occupancy,	2	1	1	0	0	0	0	0	0	0	0	0	2	1
Notions and novelties,	5	0	0	0	0	0	0	0	0	0	0	0	0	5
Restaurants,	18	0	1	0	0	0	1	0	2	0	0	0	4	16
Stationery and wall paper,	6	0	0	0	0	0	0	0	1	0	0	0	1	5
Tailoring,	14	1	1	0	0	0	0	0	0	0	0	0	2	13
Tobacco and cigars,	18	0	0	0	0	0	0	0	0	0	0	0	0	18
Undertaking,	3	0	0	0	0	0	0	0	0	0	0	0	0	3
Wholesale and retail groceries and fruits,	13	0	1	0	0	1	1	0	0	0	0	0	3	12
Miscellaneous,	3	0	0	0	0	0	0	0	0	0	0	0	0	3

NUMBER OF INSPECTIONS MADE AND ORDERS ISSUED FOR REMOVAL OR REMEDYING OF FIRE HAZARDS—Continued.

Buildings Inspected.	Number of inspectors.	Removal of or general repairs to dilapidated buildings.	Removal of rubbish and waste accumulation and regulating proper disposal thereof.	Regulating proper storage of explosives (petroleum products—chemicals—powder).	Repair chimney or stovepipe connections.	Repair roof.	Repair defective wiring.	Change or repair heating arrangement.	Change or repair lighting arrangement.	Install fire extinguishers—sand or water buckets.	Close up openings in buildings.	Place metal or asbestos protection around heat appliances or installation or other fire retardents.	Total number of orders.	Orders not necessary.
Miscellaneous,	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Motorcycles,	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Outbuildings (city and town),	7	6	6	0	0	1	0	0	0	0	1	0	14	0
Postoffices,	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Tanks (inflammable oils and liquids),	1	0	0	1	0	0	0	0	0	0	0	0	1	0
Theatres and motion picture houses,	3	0	0	0	0	0	0	0	0	0	0	0	0	3
WAREHOUSES AND STORAGE:														
Cold storage,	2	0	1	0	0	1	0	0	0	0	0	0	2	0
General storage,	3	1	2	0	0	0	0	0	0	0	0	0	3	1
Total,	562	35	39	8	4	25	4	2	11	1	2	6	137	482

RESPONSIBILITY FOR WASTE BY FIRE.

Benjamin Franklin said, that "Neglect taxes us more heavily than necessity." Whether he was alluding to his own period of life, or looking way off in the future, his words are especially applicable when consideration is given to the stupendous fire waste confronting us today. This loss cost the country in 1918 the enormous sum of $290,000,000. Of this amount $12,000,000 was right here in Pennsylvania, and of this sum sixty-five per cent., or $7,800,000 of this waste was caused by carelessness and neglect. When we consider that this wastage of resources means a per capita tax on the entire population of the country of two dollars and sixty-three cents each per year, as against about thirty cents per capita tax in Europe, it should astound us with the comparison, and arouse into activity every one in effort to reduce the fire loss which is causing the drain on the national wealth of the country.

In Belgrade, the capital of the little Balkan Kingdom of Servia, a city of 100,000 people, the fire loss for ten years was but twelve cents per capita. Is this not worth being thought over and used as an example to profit by? What has been done there, should surely, with our improved facilities for fighting fire and for prevention, be accomplished in this country.

The fire waste in the United States is costing more daily than the entire army and navy, and in a fortnight we burn up enough property to pay a year's interest on the cost of the Panama Canal. The average tax, to pay the interest on the whole debt of the government, is only twenty-five cents a year, so that the fire waste eats up, in one year, the interest for twelve years. Beside the great property loss, in the tremendous waste, about 15,000 lives are sacrificed and 5,000 persons injured annually, which must be looked upon as seriously reflecting on the laws, the utter carelessness, indifference, unpreparedness or neglect on the part of those charged with safeguarding the lives of those unable to protect themselves, and especially applicable to those who are compelled by necessity to labor in buildings, which are neither adapted to the use they are put to, and are overcrowded with workers by the avaricious owners to lessen expenses, and fire drills and preparedness in cases of emergencies are unknown or neglected

in the observance by being entirely ignored. The time has come when drastic action must be taken to make it a costly proposition to the owners or tenants of buildings, neglecting to comply with the rules of safety or ordinances enacted for the protection of the working people. This will not be accomplished until the man who has a fire ceases to be regarded as an unfortunate, and is looked upon as a public offender.

Individual responsibility for loss by fire seems drastic in its operations to the ordinary citizen, but such restraint must be enforced if the number of fires are to be reduced. If every occupant of a building is answerable financially for any loss his neighbor may sustain, caused by fire in his property, there would be a stampede for protection and the conflagration hazards would quickly disappear.

There is nothing revolutionary in the idea that an individual should be responsible to others for his acts.

It does not rest with Americans, however, to make primary application of this principle in the manner indicated, for the French have long so applied it with admirable results. There are no special laws in France relating to fire inquests, yet an inquiry by the police is made into every fire in cities and towns and in the country districts by the gendarmerie. The responsibility of a man for fire damage to his neighbors lies not in any special enactment, but in the interpretation of two short sections of the Code Napoleon, which code of laws prevails especially in France and Belgium, and forms the basis for the modern law in most Latin countries.

The sections referred to are as follows:

Article 1382: Every person is responsible and liable for any acts of his by which any other person has or may have sustained any loss, damages or injury.

Article 1383: Every person is responsible for loss, damage or injury caused by his own act, carelessness or negligence.

Responsibility, as it relates to fire, is called in France the neighbor's risk. It is universal and applied to landlord and tenant alike. If a fire starts in any premises through gross carelessness or culpable fault, all damage done to neighboring property by that fire must be made good. There is no limit to this liability, which may extend to an entire block in case of conflagration. The only point in the application of the law by which such offender may escape, is that the

burden of proof lies with the neighbor making the claim. The latter must be able to prove, before he can recover damages, that the fire was directly due to gross carelessness, culpable neglect or mischievious intent.

There are also two articles in the French Code which apply specifically to fires. These undoubtedly originated with the landlord. They read:

Article 1733: The tenant is responsible for a fire on his premises unless he can prove, that the fire was caused by something beyond his control, by some fault in building, or that the fire was communicated by a neighboring building.

Article 1734: If there are a number of tenants all are alike responsible unless they can prove that the fire caught in the apartment occupied by one of them, in which case, he alone is responsible, or unless some one of them prove that the fire did not begin in his apartment, in which case he is not responsible.

The tenant having a fire is responsible to the landlord for loss of rent, not only his own rent, but that of other tenants.

Fire losses can be described under three heads. Lightning, Carelessness and Design. All preventable, providing perfect cooperation exists between officials and the general public, and their work is in harmony and consistently performed.

Of the first cause, Lightning, statistics gathered from any sources, show that the proper rodding of buildings reduces the loss from this cause about ninety per cent. (90%). The Department is advocating and advising the rodding of buildings and has met with much encouragement, and will continue to fight for prevention of loss from this source, along this line.

Of the second cause, Carelessness, it is shown that sixty-five per cent. (65%) of all the fires occurring are from carelessness and also preventable, but yet, the hardest to combat, owing to the apparent disinteredness and thoughtlessness on the part of the general public, and it is to reach this public that extraordinary efforts must be put forth if the fire waste is to be appreciably reduced.

Of the third cause, Design, it can be divided into three classes. First, maliciousness or revenge, there being but few of this class. Second, insanity, known as pyromania. Third, burning of property for personal gain through the collection of insurance money, these being the majority and can be attributed to numerous reasons, as

over-insurance, adverse circumstances, financial embarrassment, family disputes, and where quick sales are necessary, even though it be at a loss. The punishment accorded persons guilty of this crime should be of the severest nature, as it is always premeditated and there is no hesitancy in jeopardizing the lives and property of others in the perpetration of the deed.

There is no crime more difficult to detect than that of arson. The obtainance of evidence being an ardous task, requiring time, patience, hard work and expense. After establishing the fact beyond a question of doubt in the mind of the investigating officer, it is difficult to secure indictment before a grand jury and doubly hard to secure a conviction, owing to the lack of interest or indifference of many of the prosecuting officers and courts when cases are brought before them. Some juries will not give the Commonwealth's side of the case fair consideration, being made to believe by the defendant's attorney that the Bureau of Fire Protection is simply an adjunct of insurance companies and that a rich corporation is trying to avoid payment of a claim, and in other cases, the suspect is known to a number of jurors and they have their minds made up before the trial. Many of the civil officers do not lend their aid as they should in assisting in the endeavors to better conditions. Such officers are doing injustice to their community, as the Bureau of Fire Protection is putting forth every effort for the benefit of the public, with no selfish motives to serve, and by the monthly distributions of bulletins throughout the Commonwealth is trying to educate the people to the duty they owe themselves, that of the prevention of fires and conservation of resources.

The Public Press, which forms one of the greatest educational forces in the country in the effort to disseminate knowledge in the crusade for fire prevention, recognizes that the movement is for the public good and it is responding, and through its columns much good is being accomplished against this unnecessary waste of lives and property.

CLEAN-UP DAY.

Throughout the United States and Canada, October ninth was especially designated and set aside as a "Clean-up Day," the object being the removal, destruction or remedying conditions, that were of a fire breeding nature, for the purpose of reducing fires and the conservation of resources. Citizens were requested to take stock of their own thoughtlessness and negligence in allowing the existence of fire hazards in or about their homes or business places, and were requested in the interest of preventing fires to correct conditions by the elimination of all accumulations of a dangerous character, and by so doing reduce the fire toll which is increasing to an alarming extent and adding an extra burden on already overtaxed communities. While there may be many who absolutely ignored the appeal and failed to do their duty in co-operating with the authorities and neighbors in efforts intended for the good of all, it is gratifying to testify to the beneficial results obtained where the exercises suggested were carried out by public spirited citizens and committees having the welfare and safety of their homes and community in view.

Records of the observance of the day throughout the State as reported, shows activity on the part of the chiefs of fire departments and committees for fire prevention, which is worthy of the highest commendation and gratitude on the part of citizens, as it means saving of life and property by the prevention of loss by fire which is eating into the very vital of National resources and affects every community, be it large or small. What can be accomplished by co-operation of fire departments and citizens, is with pleasure shown by what has been done in the city of Reading. A committee on fire prevention, consisting of the chief of the fire department, two members from each of the volunteer fire companies constituting the department, ably backed and assisted by city officials, Chamber of Commerce, civic clubs, manufactories, business men, insurance agents and public spirited citizens in an effort to accomplish a further reduction of the loss by fire, which in 1917 was $386,000, in 1918 $178,500 and in nine months of 1919 $17,000. This is a wonderful record and reflects the greatest credit upon the chief of the department and

those who assisted in the campaign for conservation and a clean, fireless city.

To arouse public interest in the movement for fire prevention and the saving of life and property, the committee at the beginning of its efforts formulated a program which was carried out in schools and manufacturing establishments, consisting of fire drills and addresses on "How to Prevent Fires." This movement was most successful and fully demonstrated on Fire Prevention Day by an unexpected test, under the supervision of city and State officials and committees of citizens.

Two of the largest stores in the city, with 650 employes, were selected and visited and in six and four minutes respectively from the time the alarm was sounded every employe had vacated the buildings.

Six large manufacturing establishments demonstrated the efficiency attainable by drilling. The first with 675 employes was vacated in three minutes and thirty seconds; the second with 350 employes in three minutes; the third with 125 employes in two minutes, the fourth with 125 employes in one minute and fifteen seconds; the fifth with 175 employes in two minutes and thirty seconds; the sixth with ninety employes in one minute; and the seventh with ninety-five employes in two minutes.

Schools were also visited and the expeditious manner in which the schools responded to the alarm for vacating the building reflected the greatest credit on those, who by patience and faithful training have taught self-reliance and unison of action without excitement or confusion to those under their charge.

The first school with 440 pupils, all very young, was vacated in one minute and forty-five seconds.

The boys High School with 900 pupils was vacated in two minutes and five seconds.

The girls High School with 905 pupils was vacated in two minutes and seven seconds.

The accomplishment of such results is directly attributable to the interest instilled into the minds of the children and the citizens generally by arousing their civic pride and demonstrating the advantage to be gained by the prevention of fires as shown by the reduction in loss in 1919 as compared with 1917 and 1918; due entirely to the proper inspection of buildings and the remedying of conditions by removal and destruction of fire hazards.

What has been done in Reading can be done elsewhere and it is hoped that every city and borough in the State will begin at once and continue efforts for the reduction of the disgraceful fire loss, by inspection and correcting conditions and the saving of lives and property. HELP MAKE PENNSYLVANIA FIREPROOF.

NEITHER JUST, SQUARE, NOR PATRIOTIC.

There is a serious fault in management by the persistent habit of carelessness on the part of some large property owners in failing to properly care for fire protection and prevention equipment of their establishment. This is neither just to insurance companies, square as between men mutually interested in each other's welfare, nor patriotic in conserving public wealth and resources, and demonstrates a lack of an honorable motive which is unworthy of lofty citizenship.

The object which actuates a small minority of those who install approved fire protection equipment is to enable them to secure a reduction in insurance rates, and after obtaining same, they shift all responsibility from their shoulders, allowing the insurance company to carry the entire weight, and by sheer neglect in caring for their equipment allow it to become inefficient and useless when a fire occurs. "We should worry" takes the place of effort to safeguard their plants against fire by keeping equipment ready for instant use.

Where a reduced premium rate counts for more than honorable co-operation in reducing the fire waste, and where personal profit is a larger incentive than public safety, then it is time for the communal spirit to assert itself in words and acts of condemnation of such strength and firmness as to enforce a needed reform.

Policy holders bear the cost of the fire loss, and any one who increases this loss by indifference or carelessness in looking after his fire protection installation and keeping it in good working order is

wanting in every principle of honor, reciprocity and fair dealing as between himself, the company and his fellow policy holder. Business men should make this fact a prominent feature in their daily talks with each other and create a moral sentiment in their ranks, looking towards a higher standard of ethics in caring for fire protection equipments, and the elimination of fire hazards in the interest of preventing fires.

MONTHLY BULLETIN

"MAKE PENNSYLVANIA FIREPROOF"

Department

OF

STATE POLICE

OF

Pennsylvania

BUREAU OF FIRE PROTECTION

OFFICE—ROOM 166
Capitol Building, Harrisburg, Pa.
HOWARD E. BUTZ, Chief of Bureau

VOL. VI DECEMBER, 1919 No. 45

SUGGESTIONS.

Clean up your premises and remove the fire hazard.

Oily rags and waste should be kept in metal receptacles.

Never neglect the chimney, flue or stovepipe. Keep them in repair.

Steam pipes and stove pipes should not pass through wooden partitions.

Electric wiring should be done by experts and inspected regularly.

Rubbish should not be permitted to accumulate in the attic or basement.

Vigilant watch should be kept for unsafe and unsatisfactory conditions.

Abolish the swinging gas jet, and the open grates and fireplaces.

Trash should always be removed. Trash piles are breeders.

Inspect property at regular intervals, and remove all defects found.

Oil and gasoline should be handled with great care to prevent accidents.

No chance should be taken where a fire hazard exists. Remove it.

Vol. VI No. 45

Monthly Bulletin

Department

OF

STATE POLICE

OF

Pennsylvania

BUREAU OF FIRE PROTECTION

HOWARD E. BUTZ, Chief of the Bureau

BULLETIN OF INFORMATION FOR THE PUBLIC

DECEMBER, 1919

HARRISBURG, PA.:
1919.

YULETIDE.

1919.

In view of the great and dangerous social unrest which is finding expression in strikes, lockouts, and their usual consequences; and in view of the unquestionable fact that there are under our form of government and under our laws peaceful and legal methods of righting all social wrongs, it is, therefore, especially fitting at this time of the year to realize the true meaning, and to put into effect, the pleadings of the Prince of Peace to Mankind, "Peace on earth and good will towards men." Let this at this time of unrest sink deep into the hearts of all Americans and particularly Pennsylvanians, and practice the precept taught by personal action for the benefit of all in the conservation of resources and the preservation of precious lives. Let good cheer and happiness prevail and be lasting and not marred by disaster that usually is the result of thoughtlessness and carelessness.

Let the love of dear ones and mankind in general appeal to you with sufficient force to dictate that the Yuletide now approaching shall be made more joyous and free from disaster by putting forth extra efforts for the conservation of resources by the reduction of fire losses. To accomplish this, let this occasion be absolutely free from that usual anxiety regarding the safety of the children during that period when naught but happiness should prevail. Use every precaution and avoid aught that might cause sorrow and disaster.

Full sway has usually been accorded children during the festive season and unfortunately there have been many instances recorded where sorrow has resulted through accidents that were preventable. and caused by permitting the careless use of inflammable material for decorative purposes and also from the free use of matches.

Make this a period of gladness, and gladness only; let it be free from casualties which will bear in memory on the recurring of this great festival of joy.

Make this Holiday carefree and happy by adopting stringent precautions against the possibilities of casualties by fire. Make it so by

caution and the avoidance of carelessness in handling tree and other decorations. Flimsy decorations should never be used; they have been the cause of sadness and numerous deaths.

Many entertainments will be given in homes, churches, schools, bazaars, and stores where crowds will assemble. See to it that no decorations other than those of a non-inflammable nature are used. Avoid, as you would a plague, the use of light inflammable decorations; they make easy and quick fires and under no circumstances allow decorations of any kind to be placed near gas jets.

Where possible, electricity only should be used for lighting trees or for decorative purposes, and the wiring should be done by a competent electrician.

If impossible to obtain electricity, and candles are used, under no circumstances permit the children to light or relight the candles. Frequently clothing is set afire. Avoid the possibility and always extinguish the candles before beginning the removal and distribution of gifts. Better no light at all than to run the risk of having an innocent child lose its life through neglect to observe this precaution which is one of safety. Remember also that there is danger of the tree being set on fire from the use of candles.

Do not use paper or cotton for decorative purposes; you invite fire by doing so. Use metallic tinsel or asbestos materials.

See that the tree is securely fastened to the floor, so that the children cannot pull it over.

Avoid mechanical toys that require alcohol, gasoline or other dangerous oil to operate them.

Do not allow the use of cotton beneath the tree for the purpose of giving the appearance of snow. If the appearance of snow is desired, use mineral wool-asbestos; it will not burn and gives a better effect than cotton.

Never permit matches to remain within reach of children. Keep them in metal boxes and far out of reach. Particularly at this time observe this precaution. Constantly be on the watch for anything that might cause fire, strive by every means to do this, but be prepared at the same time for any emergency by having placed conveniently either fire extinguishers or buckets filled with water.

Caution visitors who smoke to avoid throwing lighted cigars, cigarette stubs or matches about in a careless manner.

Teach the children, and profit by the teaching yourself, the danger of fire. Have drills at home for the children; nothing appeals to them more than drilling, and when once they are instilled with the knowledge of how to protect themselves in the event of fire they will better be able to care for themselves in times of danger from other sources.

The Yuletide Season is, and by all rights should be, a time of joy and good cheer. Everybody looks forward to it year by year, and hearts should not be saddened at this time by the burning of homes or injury to loved ones through carelessness.

Have merriment and plenty of it, and avoid mourning by sensible precaution.

Help make our State the banner State in freedom from distressing injuries or death.

DUTY.

Citizens of Pennsylvania should consider it their duty to become assistants in the Bureau of Fire Protection and serve the interest of the Commonwealth and community in which they reside, by safeguarding to the extent of their intelligence and ability, every form of natural and created resources and the needless sacrifice of human lives and property by the adoption of the following measures:

The adoption by municipalities of a Standard Building Code to the end that fire-resistive building construction may be encouraged, prohibiting the use of inflammable roof coverings, providing adequate exit facilities from buildings, and interiors of buildings so designed and fire-stopped as to make easy the extinguishment of fires therein.

The adoption of minimum building requirements for the protection of state and county hospitals, schools, asylums, and similar institutions outside city limits and of small communities in which the establishment and enforcement of a building code is impracticable.

The enactment of an ordinance to the end that official investigation may be made of the causes of all fires, that preventable fires may be eliminated by public education, and the crime of arson stamped out.

The adoption of an ordinance providing for the systematic inspection of all buildings by city fire marshals or local firemen to insure the vigorous enforcement of rules for cleanliness, good housekeeping, and the maintenance of safe and unobstructed exists, fire-fighting apparatus and other protective devices.

The enactment of ordinances, fixing the cost of extinguishing preventable fires upon citizens disregarding fire prevention orders, and a more general legal recognition of the common law principle of personal liability for damage resulting from fires due to carelessness or neglect.

The wider general use of the automatic sprinkler as a fire extinguishing agent and life saver and the more general adoption of the fire division wall as an important life-saving exit facility.

A careful study of the technical surveys covering the items of water supplies, their adequacy and reliability, fire department efficiency, fire alarm systems and conflagration hazards, and of the possibility of co-operation among neighboring cities through mutual aid and the standardization of hose couplings.

The adoption of laws and ordinances for regulating the transportation, storage and use of inflammable liquids and explosives.

The adoption and use of the safety match and prohibiting smoking in all parts of factories, industrial and mercantile buildings except in such fireproof rooms as may be especially approved for the purpose by fire departments.

The education of children and the public generally in careful habits regarding the use of fire.

The co-ordination of all these activities, through a central administrative officer or body of the state or city having primary jurisdiction, for the purpose of promoting uniformity of action and efficient co-operation.

In the furtherance of these objects, the Chief of the Bureau of Fire Protection, appeals for the co-operation of all citizens to the end that the lives and substance of our people shall not continue to be dissipated by a reckless and easily preventable waste.

PROTECT THE HOME.

Every building, particularly dwelling, should be provided with some ready means for quickly extinguishing a fire wherever it may occur. Neglect to do this is a violation of ordinary common sense.

One or more approved one quart or two and one-half gallon chemical fire extinguishers should be placed ready for instant use, in every building. These can be purchased for a few dollars each, and are most effective in the early stages of a fire. Their intelligent use during the first few minutes of a fire will usually extinguish it, and are often more valuable than a whole fire brigade which must first be summoned and then perhaps travel half a mile or more to reach the building. Large buildings should have a number of these extinguishers located on different floors and placed so they will be accessible.

Every able bodied person should be instructed how to use such devices. Extinguishers should be refilled at least once a year. This is a simple operation which takes only a little time, and costs but a few cents; if neglected, they may fail to be efficient.

If gasoline, kerosense, or other highly inflammable liquids not easily extinguished by water are used, at least one extinguisher using a carbon tetrachloride compound as the extinguishing agent should be provided. That type of extinguisher is particularly effective in putting out such fires. One or more of them should always be provided in a garage.

Care should be used when using extinguishers of this class, as when thrown upon a fire it produces a dense pungent smoke which is disagreeable, but not dangerous, unless inhaled to excess. Avoid breathing the smoke as much as possible, and stay and fight the fire until the extinguisher is dry.

A pail of sand, dry earth, salt, or even sawdust is also very useful in extinguishing fires in inflammable liquids. Always keep on hand a small scoop or shovel to apply dry materials. If such fires are not too large they may often be smothered by covering with a rug or blanket. Water will spread such burning fluids rather than extinguish them.

A garden hose stored where handy for quick attachment to a service pipe in the cellar or basement, or outside the building in warm weather, is a very excellent fire protective appliance.

A pail of water is the most primitive fire extinguisher known, and is valuable if available during the first few minutes after a fire starts. They must be used at short range and with considerable skill to be effective. For all general purposes an extinguisher which will throw a small stream some distance with considerable force, is far more reliable.

For a chimney fire a few pounds of salt thrown in at the top is probably the best handy extinguisher; but a pail of sand, earth, ashes or even coal, will be very helpful. If a fireplace connects with the chimney, the latter materials are not desirable to use, since they are liable to scattter the burning soot into the room where the fireplace is located.

DO YOU BELIEVE IN SIGNS?

A crack in your chimney is a sure sign that you are going to move.

If you dream of smelling smoke it is a sign that you are asleep and had better wake up.

To see a paperhanger papering over a flue hole indicates an impending loss.

It is bad luck to look in a dark closet with a match.

If you can see your shadow from an oil lamp while filling a gasoline stove it indicates a crowd of people coming to your house.

When the wind moans it is extremely bad luck to burn trash near the house.

If you smell gas or gasoline and look for it with a light, it foretells that you are about to start on a long journey.

AN UNPARDONABLE SIN.

To live in a town and make a living Off It and Out of It.

To educate your children In It.

To get everything you possibly can Out of It and put absolutely nothing Into It, or in any way help in the conservation of its resources by the prevention of fires through the elimination of fire hazards by cleanliness and the avoidance of carelessness which is responsible for the majority of fires that occur.

DUTY OF WATCHMAN.

A property owner who employs a watchman and then takes no precaution to make sure that this watchman is giving complete service, by having him use a supervisory service, such as a watchman's clock, can never know that he is getting what he pays his money to have.

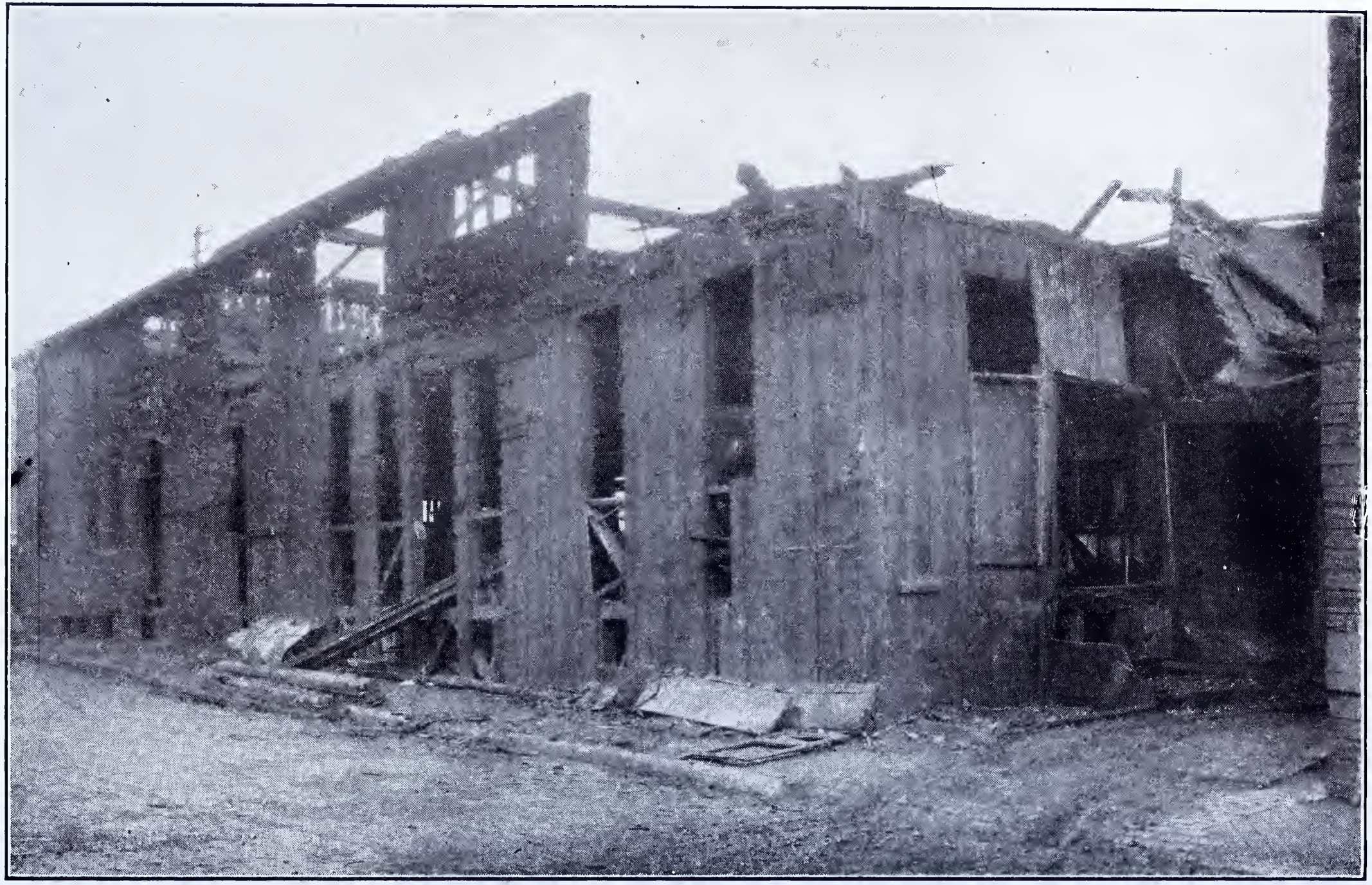
To employ a watchman and then trust to his honesty does not go far enough. The wasted wages alone are an important item, which the merchant or manufacturer, particularly where his plant is unsprinkled, depends upon the watchman for the safety of his plant as a going concern. The insurance company depends upon the watchman to compensate it for the low rate of insurance and where a particularly hazardous property is involved, those owning adjoining property depend upon the watchman for protection also. The watchman is performing a public duty and the public has a right to criticise when complete precautions are not taken to insure that his duty is done properly.—Fire Protection.

NUMBER OF FIRES REPORTED SHOWING VALUE OF PROPERTY LOSS AND INSURANCE.

During the Month of July, 1919.

(Exclusive of Philadelphia and Pittsburgh.)

Counties.	Number of Fires.	Estimated Value.	Estimated Loss.	Amount of Insurance.
Adams,	4	$9,166	$448	$3,566
Allegheny,	129	327,874	16,105	253,813
Armstrong,	10	17,600	3,684	11,000
Beaver,	9	134,200	3,339	56,300
Bedford,	5	12,600	647	7,150
Berks,	34	418,470	34,722	236,295
Blair,	25	350,500	3,028	417,150
Bradford,	20	355,654	9,403	144,300
Bucks,	12	35,549	12,492	22,400
Butler,	4	16,275	7,530	7,700
Cambria,	23	85,787	54,593	65,771
Cameron,	2	1,836	862	1,000
Carbon,	6	351,058	9,271	191,300
Centre,	3	10,250	9,301	4,500
Chester,	16	195,450	8,560	131,000
Clarion,	4	6,300	336	3,140
Clearfield,	9	17,165	5,050	8,850
Clinton,	4	11,300	1,793	8,100
Columbia,	8	12,225	5,252	8,200
Crawford,	16	81,636	30,557	31,800
Cumberland,	14	37,850	11,094	20,100
Dauphin,	19	94,800	13,196	45,400
Delaware,	15	144,506	114,823	142,550
Elk,	4	7,100	209	4,575
Erie,	52	735,090	21,175	1,516,250
Fayette,	13	22,953	2,750	16,353
Franklin,	9	21,565	7,314	11,115
Fulton,	2	4,900	4,800	900
Greene,	2	32,500	32,500	28,500
Huntingdon,	6	22,100	6,670	17,100
Indiana,	5	16,000	1,313	6,600
Jefferson,	7	24,000	2,384	10,000
Lackawanna,	70	376,775	22,529	282,975
Lancaster,	20	56,727	29,306	35,565
Lawrence,	20	55,400	6,646	30,150
Lebanon,	4	10,970	2,832	4,600
Lehigh,	9	58,425	8,937	25,985
Luzerne,	89	518,176	151,479	258,425
Lycoming,	21	60,949	9,751	32,426
McKean,	7	28,200	16,758	20,950
Mercer,	20	353,774	23,647	314,662
Mifflin,	1	1,000	87	500
Monroe,	3	14,800	9,608	11,000
Montgomery,	21	76,975	27,199	52,693
Northampton,	16	71,252	38,885	43,412
Northumberland,	9	17,640	2,216	11,600
Perry,	2	3,713	2,217	2,400
Pike,	1	2,800	2,300	1,200
Potter,	5	4,784	2,093	2,800
Schuylkill,	23	222,450	30,250	135,600
Snyder,	4	5,007	4,653	1,905
Somerset,	11	33,625	15,664	13,200
Sullivan,	3	6,267	2,099	2,700
Susquehanna,	10	18,200	6,104	9,685
Tioga,	18	23,292	6,750	13,475
Union,	3	9,200	7,327	3,750
Venango,	9	83,980	2,005	8,300
Warren,	10	68,317	6,526	48,050
Washington,	33	147,497	58,536	69,936
Wayne,	1	3,000	6	1,600
Westmoreland,	35	242,714	38,718	70,475
Wyoming,	5	43,550	37,812	35,250
York,	22	192,405	36,438	187,377
Total,	996	$6,426,123	$1,044,579	$5,165,624



Disgraceful and dangerous fire hazards existing most anywhere in Pennsylvania. Have you any such in your communty? If so, report them to the Bureau of Fire Protection, and insist on conditions being remedied.

Somewhere, most anywhere, in Pennsylvania. Disgraceful and dangerous fire hazards. Fires caused from conditions like this are costing million of dollars annually, taxing each individual. Won't you help to remedy by working for Fire Prevention?

Dangerous fire hazards existing most anywhere in Pennsylvania. Have you any such in your community? If so, report them to the Bureau of Fire Protection, and insist on conditions being remedied.

Somewhere in Pennsylvania. Does it apply to your town? If so get busy and remedy conditions in the interest of Fire Prevention.

MATERIALS USED IN CONSTRUCTION OF BUILDINGS DESTROYED OR DAMAGED BY FIRE.

During the Month of July, 1919.

(Exclusive of Philadelphia and Pittsburgh.)

Material.	Number of Fires.	Loss.
Brick,	147	$76,663
Brick and stone,	8	18,546
Concrete,	2	90,300
Fireproof,	1	140
Stone,	7	29,127
Wood or frame,	785	625,556
Wood with brick or stone,	16	80,894
Unclassified,	25	14,438
Iron covered (galvanized),	5	108,915
Total,	996	$1,044,579

CLASS OF STRUCTURES DESTROYED OR DAMAGED BY FIRE.

During the Month of July, 1919.

(Exclusive of Philadelphia and Pittsburgh.)

Structures.	Number of Fires.	Loss.
Academies, boarding schools, colleges, universities,	1	$300
Apartment houses, boarding houses, dwellings,	469	65,979
Automobiles,	18	4,130
Bank and office buildings,	2	4,881
Barns and stables (city and town),	35	24,979
Billiard (pool) halls and bowling alleys,	1	350
Chapels and churches,	12	9,356
Cottages, club houses and season homes,	1	1,599
Electric Railway Property:		
Passenger cars,	2	30
Miscellaneous,	2	963
Farm crops in field,	3	580
Farm Property:		
Barns and stables,	110	240,137
Dwellings,	156	110,941
Implements and machinery,	1	600
Outbuildings,	10	7,109
Garages, private,	5	390
Garages, public,	7	10,114
Hospitals and sanitariums,	1	250
Hotels,	8	27,326
Livery and sale stables,	1	2,609

CLASS OF STRUCTURES DESTROYED OR DAMAGED BY FIRE—Concluded.

Structures.	Number of Fires.	Loss.
Manufacturing and Industrial Establishments:		
Abbatoirs and slaughter houses,	1	1,019
Acids and chemicals,	1	1,200
Bakeries,	1	2,500
Blacksmith shops,	1	1,300
Brick and clay works,	1	2,500
Carpets and rugs,	1	7,000
Coal mining properties,	2	42,121
Confectionery,	1	3
Electric light and power plants,	1	7,000
Feed and flour,	1	37,000
Gas works,	1	200
Ice cream,	1	1,500
Iron and steel, blast furnaces, foundries, rolling mills,	5	714
Laundries,	2	690
Machine and repair shops, variety,	3	3,552
Metal, miscellaneous,	6	516
Miscellaneous,	2	2,707
Oil refineries and well works,	1	107,000
Paints, varnishes, oils,	1	15,500
Paper and pulp,	1	10,000
Mercantile Establishments:		
Automobiles and accessories,	3	3,460
Barber shops,	1	10
Boots and shoes,	1	30
Department and general stores,	3	2,925
Drugs and medicines,	1	5
Electrical and gas fixtures and supplies,	1	15
Florists,	1	50
General stores (rural),	1	22
Groceries,	3	584
Hardware,	2	90,175
Hats and caps,	1	35
House furnishings,	1	100
Ladies' furnishings,	1	5,000
Leather goods and harness,	1	350
Men's furnishings,	1	8
Miscellaneous with dwelling occupancy,	40	96,105
Restaurants,	1	50
Miscellaneous,	24	48,256
Miscellaneous,	2	250
Outbuildings (city and town),	9	435
Railroad (steam) Property:		
Bridges,	1	5
Freight rolling equipment,	1	300
Road houses, saloons and taverns,	2	966
Schools, public,	4	3,399
Tanks (inflammable oils and liquids),	1	8,973
Telegraph and telephone exchanges,	1	420
Theatres and motion picture houses,	6	19,054
Warehouses and Storage:		
General storage,	3	6,952
Total,	996	$1,044,579

CAUSE OF FIRE AND LOSS INCURRED.

During the Month of July, 1919.

(Exclusive of Philadelphia and Pittsburgh.)

Cause.	Number of Fires.	Loss.
Adjoining fires,	70	$112,414
Ashes (hot), careless disposal,	3	365
Backfire,	11	1,802
Candle carelessness,	7	200
Chimney, flues, stacks (defective or overheated),	30	14,776
Cigars and cigarettes (lighted), carelessly discarded,	18	9,853
Clothing and curtains exposed to contact with stove, heating appliances, and unprotected lights,	17	2,106
Cooking appliances (eelectric, gas, alcohol), carelessly used,	1	1,200
Electric, flat and gas iron carelessness,	17	5,847
Electric wiring, defective,	24	11,415
Explosions,	1	7,000
Alcohol, gas and oil lamps,	8	845
Alcohol, gas and oil stoves and heaters,	16	9,496
Chemicals and acids,	1	300
Coal oil and kerosene, starting fires and filling lamps and lanterns,	1	95
Gas leak,	7	413
Gasoline, benzine, naphtha, careless use and cleaning with exposed to fire or unprotected lights,	6	94,763
Oils (inflammable), ignition,	5	1,214
Water back,	1	26
Fireworks,	55	3,723
Furnaces, heaters, stoves and their pipes, defective or overheated,	10	2,842
Fumigation,	1	25
Grease ignition on stove,	6	2,686
Incendiary,	11	83,698
Lamps and lanterns, overturned,	1	150
Lightning (buildings rodded),	1	6,000
Lightning (buildings not rodded),	49	174,218
Lightning (no report as to rods),	317	70,895
Matches, careless use and keeping,	21	4,154
Matches, children,	37	21,164
Matches (lighted), carelessly discarded,	4	122
Metals (hot), asphalt, tar, pitch, wax, metal, etc., ignition of,	1	10,000
Miscellaneous,	10	3,598
Motion picture apparatus and films,	2	375
Ovens (bakery), defective or overheated,	1	800
Smoking, carelessness,	2	70
Smoking in bed,	2	17,024
Sparks,	3	79
Chimneys, flues, stacks, cupola (exposure, adjoining fires),	18	2,150
Locomotive,	9	5,598
Motors,	2	175
Running machinery (friction),	2	22,154
Rubbish and brush burning,	5	140
Stationary engines, tractors, etc.,	3	9,085
Spontaneous combustion,	7	8,521
Torch carelessness,	4	1,925
Tramps,	1	2,600
Undetermined,	159	313,985
Vulcanizing,	4	1,452
Woodwork and furniture exposed to contact with stove, heating appliances and unprotected lights,	4	1,041
Total,	996	$1,044,579

NUMBER OF INSPECTIONS MADE AND ORDERS ISSUED FOR REMOVAL OR REMEDYING OF FIRE HAZARDS.

During the Month of October, 1919.

Buildings Inspected.	Number of inspections.	Removal of or general repairs to dilapidated buildings.	Removal of rubbish and waste accumulation and regulating proper disposal thereof.	Regulating proper storage of explosives (petroleum products, chemicals, powder).	Repair chimney or stovepipe connections.	Repair roof.	Repair defective wiring.	Change or repair heating arrangement.	Change or repair lighting arrangement.	Install fire extinguishers, sand or water buckets.	Close up openings in buildings.	Place metal or asbestos protection around heat appliances or insulation of other fire retardents.	Total number of orders.	Orders not necessary.
Apartment houses, boarding houses, dwellings,	78	37	16	0	26	34	0	0	0	0	0	0	113	4
Bank and office buildings,	5	0	0	0	0	0	0	0	0	0	0	0	0	5
Barns and stables (city and town),	13	10	9	0	0	3	0	0	0	0	0	0	22	0
Billiard (pool) halls and bowling alleys,	14	0	4	0	0	0	0	0	0	0	1	1	6	10
Club, lodge and society rooms,	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Cottages, club houses and season homes,	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Farm Property:														
Outbuildings,	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Garages, public,	26	0	3	0	0	0	0	0	0	1	0	0	4	23
Hotels,	20	1	0	0	1	2	0	1	0	0	0	1	6	16
Incubators and brooders,	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Livery and sale stables,	4	1	0	0	0	0	0	0	0	0	0	0	1	3
Manufacturing and Industrial Establishments:														
Agricultural implements,	3	0	0	0	0	0	0	0	0	0	0	0	0	3
Bakeries,	18	0	1	0	0	0	0	0	0	2	0	0	3	15
Blacksmith shops,	1	1	0	0	0	0	0	0	0	1	0	0	2	0
Boots and shoes,	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Clocks,	2	0	0	0	0	0	0	0	0	1	0	0	1	1
Brick and clay works,	1	0	0	0	0	1	0	0	0	0	0	0	1	0
Carriages and wagons,	4	0	0	0	0	0	0	0	0	0	0	0	0	4
Cigars and cigarettes,	9	0	0	0	0	0	0	0	0	0	0	0	0	9

Clothing (men's), linens, hats, caps, gloves,	12	0	0	0	0	0	0	0	0	0	0	0	0	12
Cobblers,	9	0	1	0	0	0	0	0	0	0	0	0	1	8
Creameries,	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Electric light and power plants,	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Feed and flour,	4	0	0	0	0	0	0	0	0	0	0	0	0	4
Furniture,	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Furnaces and stoves,	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Hosiery and knitting,	3	0	0	0	0	0	0	0	0	1	0	0	1	2
Ice cream,	3	0	0	0	0	0	0	0	0	0	0	0	0	3
Laundries,	3	0	0	0	0	0	0	0	0	0	0	0	0	3
Leather goods and saddlery,	4	0	0	0	0	0	0	0	0	0	0	0	0	4
Machine and repair shops, variety,	10	0	0	0	0	0	0	0	0	0	0	0	0	10
Mattress and upholstery,	1	0	1	0	0	0	0	0	0	0	0	1	2	1
Metal, miscellaneous,	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Miscellaneous,	5	0	0	0	0	0	0	0	0	1	0	0	0	1
Paints, varnishes and oils,	1	0	0	0	0	0	0	0	0	0	0	0	0	2
Paper and pulp,	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Planing mills,	6	0	0	0	0	0	0	0	0	1	0	0	0	9
Plumbing and tinning,	16	0	1	0	0	0	0	0	0	0	0	0	1	15
Printing establishments,	9	0	0	0	0	0	0	0	0	0	0	0	0	9
Saw mills,	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Mercantile Establishments:														
Agricultural implements,	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Automobiles and accessories,	7	0	1	0	0	0	0	0	0	0	0	0	1	6
Barber shops,	10	0	1	0	0	0	3	1	1	0	0	0	6	6
Boots and shoes,	21	0	2	0	0	0	1	0	0	0	0	0	3	18
Confectionery and ice cream,	18	0	0	0	0	0	0	0	0	0	0	0	0	18
Department and general stores,	34	0	2	0	0	0	0	0	0	0	1	1	4	30
Drugs and medicines,	24	0	0	0	0	0	0	0	0	0	0	0	0	24
Electrical and gas fixtures and supplies,	4	0	0	0	0	0	0	0	0	0	0	0	0	4
Florists,	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Flour, feed and hay,	6	0	0	0	0	0	0	0	0	0	0	0	0	6
General stores (rural),	6	0	0	0	0	0	0	0	0	0	0	0	0	6
Groceries,	111	2	6	0	0	0	2	0	0	0	0	0	10	101
Hardware,	27	0	1	0	0	0	0	0	0	1	0	0	2	25
House furnishings,	30	1	2	0	0	0	2	0	0	0	1	0	6	26
Jewelry,	12	0	0	0	0	0	0	0	0	0	0	0	0	12
Ladies 'furnishings,	16	0	2	0	0	0	0	0	0	0	0	1	3	13
Leather goods and harness,	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Liquors and wines,	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Meats,	27	0	2	1	0	0	3	2	0	0	0	0	8	23
Men's furnishings,	40	1	3	0	1	0	1	0	1	0	0	0	7	34
Millinery,	14	0	0	0	0	0	0	0	0	0	0	0	0	14
Miscellaneous,	7	0	1	1	0	0	0	0	0	0	0	0	2	6
Miscellaneous with dwelling occupancy,	16	3	4	0	0	0	2	1	2	1	0	3	16	8
Musical instruments and sewing machines,	3	0	0	0	0	0	0	0	0	0	0	0	0	3
Notions and novelties,	15	0	0	0	0	0	0	0	0	0	0	0	0	15
Restaurants,	28	0	1	0	0	0	2	1	1	0	0	2	7	23
Stationery and wall paper,	6	0	2	0	0	0	0	0	0	0	0	0	2	4

NUMBER OF INSPECTIONS MADE AND ORDERS ISSUED FOR REMOVAL OR REMEDYING OF FIRE HAZARDS—Concluded.

Buildings Inspected.	Number of inspections.	Removal of or general repairs to dilapidated buildings.	Removal of rubbish and waste accumulation and regulating proper disposal thereof.	Regulating proper storage of explosives (petroleum products, chemicals, powder).	Repair chimney or stovepipe connections.	Repair roof.	Repair defective wiring.	Change or repair heating arrangement.	Change or repair lighting arrangement.	Install fire extinguishers, sand or water buckets.	Close up openings in buildings.	Place metal or asbestos protection around heat appliances or installation of other fire retardents.	Total number of orders.	Orders not necessary.
Tailoring,	12	0	0	0	1	1	0	0	0	0	0	0	2	11
Tobacco and cigars,	12	0	0	0	0	0	0	0	0	0	0	0	0	12
Undertaking,	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Wholesale and retail groceries and fruits,	13	0	1	0	0	0	1	0	1	0	0	0	3	10
Miscellaneous,	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Motorcycles,	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Outbuildings (city and town),	11	10	5	0	0	1	0	0	0	0	1	0	17	0
Road houses, saloons and taverns,	6	0	0	0	0	0	0	0	0	0	0	1	1	5
Theatres and motion picture houses,	5	0	0	0	0	0	0	0	0	0	0	0	0	5
Warehouses and Storage:														
General storage,	5	1	1	0	0	0	0	0	0	0	0	0	2	4
Total,	853	68	73	2	29	42	17	6	6	10	4	11	268	668

MORAL RESPONSIBILITY.

It is customary for a thoughtless type of citizen, who has protected himself against financial loss by insuring his home or factory to say: "Let 'er burn; I'm covered!" Aside from the fact that this narrow viewpoint ignores the fundamental truth of the general distribution of the fire waste burden, it also overlooks another important aspect of the situation—that of moral responsibility.

A property owner is never justified in jeopardizing the lives and possessions of his neighbors by refusing to take precautions against fire. In the case of buildings where a number of people congregate, the moral responsibility becomes a matter of the greatest moment, and dereliction is little short of criminal. It is true that there are usually local ordinances designed to safeguard the occupants of theatres, schools, apartment houses and hotels, but laxity in enforcing these statutes is not unknown. The moral responsibility of the owner, in any event is undiminished.

One of the most serious phases of the question relates to hotels, where fires, in the majority of cases, occur during the sleeping hours. In a recent instance, a hotel building of ancient construction, which long had been marked as a fire-trap by fire prevention engineers, caught fire in the small hours of the morning, and in a few moments was a mass of roaring flames. Some two hundred guests were sleeping in the building and, had it not been for exterior fire escapes, installed at the insistence of the authorities, many of the occupants probably would have perished. Had they been burned to death, the proprietor of the hotel would have been morally, if not criminally, responsible.—News Bulletin, Michigan.

PREVENTING AND REDUCING THE FIRE WASTE OF THE NATION WILL HELP TO PROVIDE FOR THE NATION'S NEEDS.

1. All officers and employes of manufacturing or industrial establishments should be on guard at all times, show their loyalty and

co-operation, and through earnest efforts and constant vigilance, accept their responsibility toward the elimination of the unnecessary fire loss of property.

2. Let each employe consider himself a fire inspector, as far as his particular duties are concerned, and in so far as any dangerous condition may come to his notice; and let each one have in mind constantly, that through no act of his, or through no lack of action on his part, will he create a fire hazard or allow one to pass unnoticed.

3. If you know of or see a fire danger or hazard, report it immediately to your superior in charge of your department.

4. Keep in mind constantly that the first requisite in the prevention of fire waste is good housekeeping—meaning cleanliness. Remove accumulations of rubbish and waste, and guard inflammable property and materials from all sources of danger by fire. Guard against not only physical defects but neglects brought about through carelessness, indifference, ignorance, or willfulness on the part of any person. Smoking is a general habit; guard carefully against hazards and careless practices incident to it.

5. Manufacturing of all staple articles is of such importance at this time, that destruction of property used in it leaves marked consequential losses. The acceptance of individual responsibility will prevent not only large waste of property, which can not be replaced today, but temporary loss of employment through the destruction of facilities, and serious interference with operation.

COSTLY CARELESSNESS ELIMINATED BY EDUCATIONAL MEASURES.

Waste of life and property by fire has for years been a heavy burden on the people of the State of Pennsylvania, the cost of insurance and protection has constantly increased and will not materially decrease until the fire waste decreases. No subject should arouse the general public to its own interest than that of the prevention of fires, which, heretofore, have been looked upon as a

visitation that was unavoidable. This waste is preventable and controllable by the concerted action of state and municipal officials by proper regulation, and the co-operation of the people at large. This can be accomplished by a movement for the education of the public as to fire waste. Education should commence with the children in schools, of which there are approximately 1,500,000 in Pennsylvania, and they should be instructed in fire drills and the chemistry of fire. Lessons should be simple and cover the proper and improper use of matches, kerosene oil and oil stoves, gasoline and gasoline stoves, oil lamps, wicks and chimneys, stoves and stove pipes, heaters, fire places and grates, the proper making and keeping of fires, construction and care of chimneys, the effect of sparks on shingle roofs, prevention and remedy, care of hot ashes, cause and effect of leaking gas, its danger and prevention, the possibility of grease, oil and oily rags causing spontaneous combustion; electricity, showing the dangers of defective wiring; how to celebrate a sane and safe Fourth of July, and dangers arising at Christmas Holidays from the use of flimsy decorations, and lastly lessons in fire fighting.

The field for this work is ready and should be used, and its success means the attaining of active allies in Fire Prevention. Educate the children and in most communities the parents who have given no attention to this important subject will fall in line, and thus a vast army enlisted to fight for clean, wasteless, trashless communities will have been established, with an efficiency of greater magnitude than all the laws that can be enacted could produce. An educational campaign designed for success requires constant thought and active work to be far reaching in effect, and must be undertaken with a determination and object to carry it into every home and to enlist every individual as a worker and advocate for the prevention of fires.

Exhibitions by means of moving pictures or stereopticon should be given with lectures, calling the attention of the audience to the exact condition in their own locality, as compared with localities where the work for prevention is progressing, pointing out where improvements can be made by removal or repair of dilapidated buildings and the destruction of rubbish or other matter of inflammable nature.

Chambers of Commerce, Boards of Trade, Village Improvement Associations, which are generally composed of the public spirited citizens who have the welfare of their community in view, if not al-

ready established, should be formed and invited to participate and aid in this great and beneficial work which means so much for public welfare.

Citizens, irrespective of their positions in a community, are directly and indirectly interested in Fire Prevention, and should give special encouragement and assistance in this work as they have both a selfish and public interest in the matter. Their selfish interest being the reduction in insurance rates, and their public interest the good of the community in which they live. Cleanliness, improvement and repairs to property and the protection of lives must surely appeal to everyone to put forth their best efforts for prevention of fires and the saving of lives and property.

While educating the public in Fire Prevention, the matter of proper fire protection and the training of those charged with fire fighting should not be neglected, but, should be given close attention, not only in so far as apparatus is concerned, but to the sufficiency of the water supply, proper location of hydrants, and an adequate alarm system that will enable absolute knowledge of the exact location of a fire. In addition to the duty of fighting fires and of equal, if not of more importance, should be the prevention of fires, which means the saving of thousands of dollars in the reduction in loss of property and the lessening in the cost of insurance. Members of fire companies should be instructed and the citizens of the community should make it a matter of such interest to them that the individual members of fire companies will familiarize themselves with the construction of the buildings in their respective districts, by frequent inspections of the same and report to the proper official as to the conditions of buildings, and whether by reason of their condition they are a fire menace and situated so as to endanger other property. Also report should be made of the accumulation of trash or rubbish in or around buildings that might cause fire, and action should at once be taken to have the same removed and destroyed, and the buildings or places put in a clean and safe condition.

Fire Prevention should be the slogan of every fire company and work along that line should be vigorously pushed. The preparedness of companies for emergencies should not be neglected and some special member should be delegated to frequently see that pipes are

properly flushed and that in winter time that hydrants do not freeze. A little attention, in this direction, may be the means of preventing what otherwise, might be a great loss of property.

You are probably familiar with the per capita fire loss in this country amounting in 1918 to $2.63 as compared with the average 30c per capita in Europe, no doubt you have sought the reason for so great a difference. The construction of buildings, in Europe are mostly of brick or stone, and in this country of wood is one reason. The methods of obtaining insurance and the strict inspection of property to be insured, and the investigation of fires previous to the payment, by the insurance company to the insured, and the practicably impossibility of over insurance, which is a great incentive for the burning of many properties in this country, is another and a very important reason.

Consideration should be given by every community in its endeavors to prevent loss by fire to proper building laws prohibiting in so far as possible the erection of any structure, other than those built of fire resistive material. Architects estimate that at the present price of building material, fireproof structures can be erected at a cost not to exceed ten or fifeen per cent. more than non fireproof structures. When considering that the deterioration of fireproof buildings is about one per cent. as against four per cent. of ordinary buildings that they rent better, that money can be borrowed on them on easier terms, that the insurance is less, that they are vermin proof, cool in summer and warm in winter, it can readily be appreciated that it is much better and of self interest to build a fireproof building rather than one of a non fireproof construction.

Thousands of business men fail to safeguard their property, which strict economy and industry have created, nor do they give a thought to the protection of the lives of their employes. They probably carry insurance and in case of fire expect to be re-financed from that source. But no insurance can restore lost trade, which becomes scattered as the inevitable result of fire loss. Nor can insurance bring to life the victims of the terrible scourge.

Fire Prevention, fire insurance and business are closely related to each other, but, usually thought is expended on the latter disregarding prevention entirely. Business could not be conducted without fire insurance, if an attempt was made to do so, credit would be cut

off as insurance is essential, being the basis of commercial credit and security back of all bonds and mortgages. Insurance being simply the idemnification for loss through fire funds contributed by others, or in other words, a large number of persons contribute small sums in order that such of them that would otherwise lose a larger amount through fire would receive in whole or part, the amount of their loss. Many manufacturers and merchants are under insured and excuse themselves for neglect in carrying sufficient insurance on the excessive premium rates. Let fire prevention be before you in the conduct of your business, no matter how large or small it may be. For your activity in the prevention of fires means a reduction in insurance rates, as rates are based on the condition of property and surrounding, including construction of buildings, occupancy, water supply, lighting, area, police system, fire department, night watchmen, pavements and width of and condition of street. You can aid in the reduction in premiums by assisting and improving your city and the condition of your own property. Remove fire hazards and introduce fire preventive and protective measures, in order to eliminate destruction by fire.

BETTER HOME AND COMMUNITY CONDITIONS.

A community rises in the scale of civilization by thoughts, by efforts, by care, by the increase of good habits and the elimination of bad habits on the parts of its citizens, and what brings success to an individual brings success to a community. There are communities that are sluggards; communities that are overgrown, dirty and dissolute; communities that are clean to finickyness; communities that are big hearted and open minded; communities that are rich and kindly; communities that are rich and miserly. Under which of these do you prefer that your community be known? The selection rests entirely with the residents, and it is expected that the preference would be for a prim, rich and kindly community. The essentials necessary are cleanliness, industry, care and education of the children, development of community spirit and general usefulness.

Cleanliness comes first, for no one wants to do business in a dirty community no more than to live with a dirty individual, or in a foul, smelling cluttered home which means loss of self respect. What is true of a home is equally true of a community, and the very best advertisement that any place can have is that it is clean and well governed, free from all that is disagreeable or a menace to life and property.

The cost of making and keeping a community clean so that it will become known as such is comparatively small in so far as the expenditure of money is concerned, but requires physical exertion and strict adherence to the rules of cleanliness and safety, and instead of setting aside one day in the year for that special purpose EVERY DAY SHOULD BE A CLEAN-UP DAY. This work like all other is hard at first, but when the results of the efforts put forth become known that you have determined to enter the rank as the best kept communities in the State, civic pride will not permit you to go backward, but rather pride will be so strong that you will push onward and onward, and your efforts will be directed for even better conditions than you first planned, and will include better constructed buildings, better and more paved streets, better sewerage, and in fact, everything that can be done to bring your community to that perfection that the spirit of civic pride dictates.

The campaign for betterment must be pushed vigorously and systematically. It must have a head who will be willing to direct the work throughout the entire year and must have an organization in every district and in every home as well and there must be co-operation between the citizens, for without co-operation it will not succeed. The Bureau of Fire Protection is using all its powers in the effort to reduce the great and unnecessary fire waste that is a disgrace to the State, and in investigating the causes of this waste find that 65% of all fires that occur are from carelessness, and that this carelessness comes from failure to remove and destroy trash, rubbish, dilapidated buildings and other accumulations that are permitted to remain in and about premises as an invitation to fire and is a constant menace. We welcome and urge these CLEAN-UP DAYS OR WEEKS and are ready to lend assistance, recognizing that it means the awakening civic pride which must exist if communities expect to take their place among those who by activity for clean, healthy,

industrial centers are looked upon as examples for other communities to follow. Individuals are interested in this movement whether owners of property or not, and must bear the burden of loss and inconvenience. As fire losses increase so do the rates of insurance; the cost of which comes out of your pocket and is added to the cost of every commodity used.

Recognizing this, twenty-six States have adopted annual CLEAN-UP DAYS and in this State nearly every live town is getting busy and doing the same, it means so much that is beneficial beside a clean, healthy town. The probability of fires is reduced to a very great extent and it also reduces the work and risk of casualties to members of the fire department who have others depending upon them. This risk can, to a great extent, be avoided by activity in the prevention of fire.

By imposing the cost of fighting fires upon your neighbors and the department they maintain, and neglecting your share of the responsibility you are by no means square with the community when your house burns down and you collect the insurance carried. As a good citizen you cannot impose the whole job of safeguarding the community on the fire and Police Department, which are an expensive proposition, and to be worthy of consideration must at all times be properly equipped and ready for any emergencies that may arise. You are financially interested by reason of the necessary taxes paid to support the departments and if by your neglect, carelessness, or other causes, you and your neighbors fail to properly guard your own properties against loss by fires, there must be an increase in taxes to pay for more equipment and the necessary increase of men to fight them; and it also further increases insurance rates which must be met and is an additional burden. This is the experience of numerous communities which have given no thought to conditions beyond the mere establishing of a fire department; never taking into consideration that it is the duty of yourself and neighbor to see that conditions in and about your homes, or business places, are such as to preclude the possibility of a fire caused by your own fault. Have you done this? Or are you, like many others, satisfied to go along permitting fire breeding material to accumulate, and knowing better, putting off until tomorrow what should be done today? Many have, and regretted it too late. and after a loss that might have been

avoided have said, "well, it is too bad. If I had only done this or that, my home would now be standing. As it is I've got to start at the beginning and struggle twice as hard to recover what has been lost by my own neglect in failing to observe the simple laws of cleanliness." Take this to yourself and look around and see if it is not true. This certainly is of interest to you, and there should be no hesitation in lending your assistance in the prevention of fire, which is one of the best investments you can make, and entails so little effort in its accomplishment, considering the benefits derived. Go further and urge the teachers of schools to instruct the children in Fire Prevention. They will soon learn to avoid many causes of fires, and in time will become the teachers of others.

COLLECTION LIBRARY

MONTHLY BULLETIN

"MAKE PENNSYLVANIA FIREPROOF"

Department

OF

STATE POLICE

OF

Pennsylvania

BUREAU OF FIRE PROTECTION

OFFICE--ROOM 166
Capitol Building, Harrisburg, Pa.
HOWARD E. BUTZ, Chief of Bureau

VOL. VII JANUARY, 1920 No. 46

FRIEND OR ENEMY?

Who am I?

Listen!

In cellars, closets, attics—everywhere—I am conceived.

Born of a touch, I become a tornado. Before my fury man is helpless.

I cheer the heart of the shivering and destroy the millionaire in his home.

In the United States each year I claim a sacrifice of 9,000 innocent lives.

Without me the world would stop—never could have been born in fact.

I turn the wheels of commerce.

Each year upon my altar, carelessness lays a quarter billion dollars of the fruits of man's industry.

He who controls me will find the Midas touch.

When I stalk, behind me lies desolation.

My breath gives life; yet in my embrace all things die.

I am relentless. My rule is absolute, and yet an abject subject am I.

I leap to do man's slightest bidding. Without my aid he would be powerless.

Men worship me, curse me, love me, fear me, hate me, marvel at my works.

All have been warned against me, yet they heed not.

Who am I?—

I am man's best friend—and bitterest enemy.

I am—FIRE.

FRANKLIN & MARSHALL
COLLEGE LIBRARY,

Vol. VII No. 46

Monthly Bulletin

Department

OF

STATE POLICE

OF

Pennsylvania

BUREAU OF FIRE PROTECTION

HOWARD E. BUTZ, Chief of the Bureau

BULLETIN OF INFORMATION FOR THE PUBLIC

JANUARY, 1920

HARRISBURG, PA.:
1920.

A LONG-NEGLECTED DUTY.

The Necessity of a Standarization of Hose Couplings in Pennsylvania.

There can perhaps be no better illustration of progressiveness of the times than the fact that so many of the cities and boroughs throughout the State, in recognition of the necessity for prompt action in case of fires, either have or are contemplating the purchasing of modern motorized fire fighting equipment to replace the antiquated horse or hand drawn apparatus which has outlived its usefulness, and the community which still depends on such apparatus is looked upon as lacking in civic pride and progress. This advancement for betterment is commendable and should be encouraged and carried out in all forms of community improvements, especially connected with the protective service of the fire department. One of the principal features of protection should be an adequate supply of good quality hose with standard couplings, so that in the event of it being necessary to secure help in an emergency from some neighboring community, there will be no delay in service when help arrives.

The question of hose coupling in Pennsylvania is a serious one, as demonstrated by the various assortment found to exist throughout the State by a careful survey of the subject, and it is a reflection on the fire fighting forces that such a condition is permitted to exist. There is a standard. and why not its adoption by every fire company in the State, and compel manufacturers of hose and couplings to adhere strictly to that standard, instead of each adopting its own sizes for the sole purpose of forcing the repurchase of their especial product? While this may be legitimate from a trade standpoint, it must be realized that the purpose and use of fire hose is for extinguishment of fires and the saving of life and property. Consequently, where a possibility arises that might demand the rendering of assistance by one community to another, there should be no question of the availability of proper equipment to enable prompt service to an appeal.

As conditions now exist, this in many instances would be utterly impossible, owing to the great diversity of the size of hose couplings that are prevalent throughout the State, and it is about time that the associations of firemen and the committees themselves, in the interest of protection at home, or in case of rendering or receiving assistance, should adopt and equip with the standard size of couplings in accord with the standard adopted by the United States Bureau of Standards, and recommended by the insurance interests through the National Board of Underwriters, which is Outside Diameter 3 1/16" —Inside Diameter 2½"—and 7½ threads to the inch. As a reason why Pennsylvania should adopt the standard, the following table has been prepared from reports obtained from cities and boroughs throughout the State, showing the different sizes in couplings, and is the best argument why some concerted action should be entered into by the fire fighting forces of the State to standard couplings, which is quite as important as the securing of modern apparatus and should be given quite as much attention as is now given in efforts being made for up-to-date equipment.

SIZE—HOSE COUPLINGS.

Outside Diameter.	Inside Diameter.	Thread Per Inch.	Outside Diameter.	Inside Diameter.	Thread Per Inch.
2⅞"	2½"	3½	2½"	2 3/16"	8
2½"	2"	4	2⅝"	2½"	8
2½"	2"	5	2 55/64"	2½"	8
2⅞"	2"	6	2 27/32"	2 7/16"	8
2 17/32"	2½"	6	2 31/32"	2 5/16"	8
2 15/16"	2½"	6	2 17/32"	2⅛"	8
2 23/32"	2¼"	7	2 33/64"	2⅛"	8
2 11/16"	2¼"	7	2⅞"	2½"	8
2¾"	2½"	7	2⅞"	2"	8
2 47/64"	2⅛"	7	2½"	2"	8
2 47/64"	2¼"	7	2 13/16"	2 7/16"	8
2 31/32"	2⅛"	7	2 13/16"	2⅛"	8
2 11/16"	2½"	7	2 15/16"	2½"	8
2 23/32"	2½"	7	2 27/32"	2¼"	8
2 61/64"	2½"	7	2⅜"	2⅛"	8
2 15/16"	2 7/16"	7½	2 23/32"	2⅛"	8
2⅞"	2½"	7½	2¾"	2½"	9
2 31/32"	2½"	7½	2½"	2"	9
2 31/32"	2⅜"	7½	2"	1¼"	10
2 15/16"	2½"	7½	2½"	2"	10
2 31/32"	2 7/16"	7½	2⅜"	2"	11½
2 17/32"	2¼"	8	3"	2¾"	3
2½"	1¾"	8	3"	2½"	3
2 63/64"	2½"	8	3"	2½"	4
2 13/16"	2½"	8	3½"	3"	4
2¾"	2¼"	8	3¼"	2¼"	4
2 3/32"	2½"	8	3½"	2¾"	4
2 31/32"	2½"	8	3½"	2½"	4
2¾"	2½"	8	3⅝"	2¾"	5
2¾"	2⅜"	8	3⅝"	3"	5
2 27/32"	2¼"	8	3"	2½"	5

Outside Diameter.	Inside Diameter.	Thread Per Inch.
3½″	2½″	5
3¾″	3″	6
3 1/16″	2½″	6
3 9/16″	3″	6
3⅛″	2½″	6
3 3/32″	2½″	6
3″	2⅜″	6
3 3/32″	2⅜″	6
3″	2½″	6
3¼″	2½″	6
3 1/16″	2 15/32″	6
2 5/64″	2 15/32″	6
3 9/64″	2½″	6
3 3/32″	2⅜″	6
3 1/32″	2½″	6
3 5/64″	2½″	6
3 5/32″	2½″	6
3 3/16″	2½″	6
3¼″	2⅞″	6
3 1/64″	2½″	6
3 15/64″	2½″	6
3¾″	2½″	6
3 3/64″	2½″	6
3 7/32″	2½″	6
3 1/16″	2⅞″	6
3 17/64″	2½″	6
3¾″	2⅝″	6
3½″	2½″	6
3⅝″	2½″	6
3 7/64″	2½″	6
3 1/16″	2⅜″	6
3½″	3″	6
3⅝″	3″	6
3 1/16″	2″	6
3 1/16″	2½″	7
3 3/64″	2½″	7
3½″	3″	7
3″	2½″	7
3 3/32″	2½″	7
3 5/64″	2½″	7
3 1/32″	2½″	7
3⅝″	2¼″	7
3⅛″	2½″	7
3⅛″	2 7/16″	7
3 9/64″	2½″	7
3½″	2½″	7
3 5/16″	2½″	7
3 23/32″	2⅛″	7
3 5/32″	2½″	7
3 11/64″	2½″	7
3″	2 7/16″	7
3 3/16″	2½″	7
3 1/64″	2½″	7
3 1/16″	2½″	7½
3″	2½″	7½
3⅛″	2½″	7½
3 5/64″	2½″	7½
3 1/32″	2½″	7½
3 5/32″	2½″	7½
3 1/64″	2½″	7½
3 3/32″	2½″	7½
3 7/64″	2½″	7½

Outside Diameter.	Inside Diameter.	Thread Per Inch.
3″	2⅜″	7½
3 1/64″	2½″	8
3 1/16″	2½″	8
3 5/64″	2½″	8
3″	2⅜″	8
3⅜″	2¾″	8
3 3/32″	2½″	8
3″	2½″	8
3¾″	2½″	8
3 5/16″	2¼″	8
3 7/16″	2½″	8
3 1/32″	2½″	8
3 5/16″	2 11/16″	8
3½″	2 3/16″	8
3⅝″	2½″	8
3⅛″	2½″	8
3½″	3″	8
3 3/64″	2½″	8
3 1/32″	2 5/16″	8
3 3/16″	2½″	8
3 15/64″	2½″	8
3″	2″	8
3¼″	2½″	8
3⅝″	2⅞″	8
3 11/16″	3″	8
3¾″	3″	8
3 5/64″	2½″	8
3″	2¾″	8
3 1/32″	2 7/16″	8
3¾″	3⅛″	8
3 5/32″	2½″	8
3 7/64″	2½″	8
3½″	2⅛″	8
3⅝″	3⅛″	8
3″	3″	8
3″	2 5/16″	8
3½″	2½″	8
3 1/16″	2 7/16″	8
3¾″	3¼″	8
3⅝″	2½″	8
3½″	2⅞″	8
3 1/16″	2 5/16″	8
3 9/16″	2½″	8
3″	2½″	9
3⅛″	2½″	10
3¾″	2¾″	10
3¾″	2½″	10
3½″	3″	10
3¼″	2½″	10
3″	2½″	10
3″	2″	12
3″	2½″	20
4½″	2½″	4
4″	3″	4
4⅞″	4⅛″	6
4″	2½″	7
4″	2½″	8
4¾″	3½″	8
4″	3″	8
4½″	2½″	10
5″	3″	6

Similar conditions existing in other States has aroused the authorities to the importance of the movement for a standarization of couplings, it having been found that in a number of serious conflagrations

where aid was requested from adjoining cities of towns, and promptly responded to, that it was valueless because of the variety of threads which made it impossible to connect the visiting apparatus with fire hydrants. This is a serious condition and one likely to occur at any time, and this defect should be corrected by the adopton of the National Standard which has the unqualified approval of all the leading organizations concerned with water supplies, fire departments and fire protection.

1920

DONT'S

Don't allow rubbish to accumulate in cellars, attics, closets, workshops or anywhere about the premises; a clean property seldom burns.

Don't burn brush or rubbish near buildings, fences, or other property, and never trust children to do so.

Don't keep ashes in wooden boxes or barrels, nor deposit them against wooden buildings, fences or partitions; use only metal receptacles.

Don't change electric wiring without consulting a competent electrician.

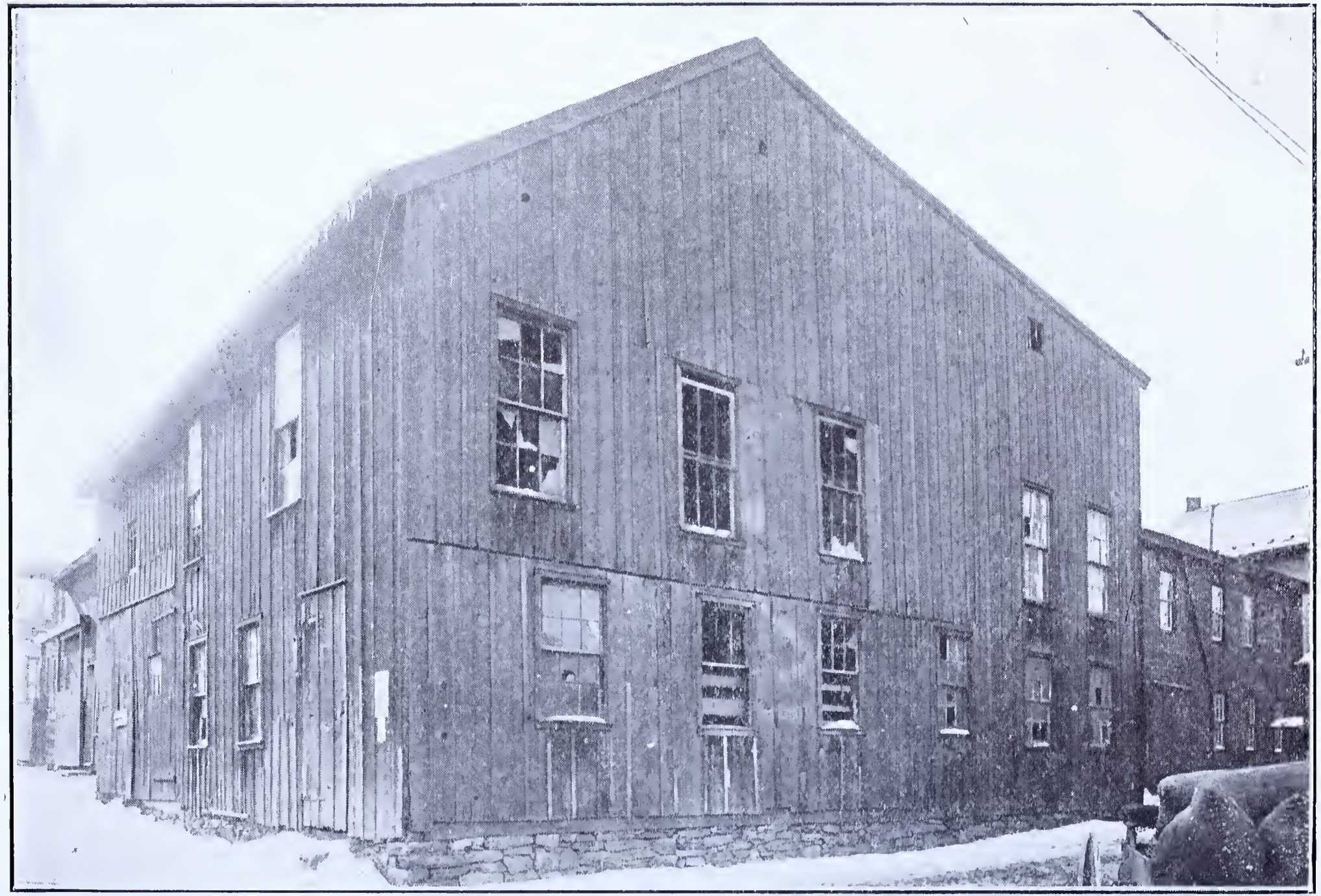
Don't hang electric wires or cords on nails.

Don't neglect to take precaution when using electric irons. See that current is cut off when through using them.

Don't neglect to place metal protection under all stoves and protect woodwork where stoves or furnaces are close to walls.

Don't neglect to protect openings with proper ventilating thimbles where stovepipes pass through ceilings, partitions or roofs.

Don't neglect to have chimneys examined, repaired and thoroughly cleaned at least once a year.



Dilapidated and neglected buildings are a fire hazard and a constant menace to valuable, adjacent property. In the interest of prevention and reducing the fire losses, tear down and remove or put in good condition **all such buildings.**

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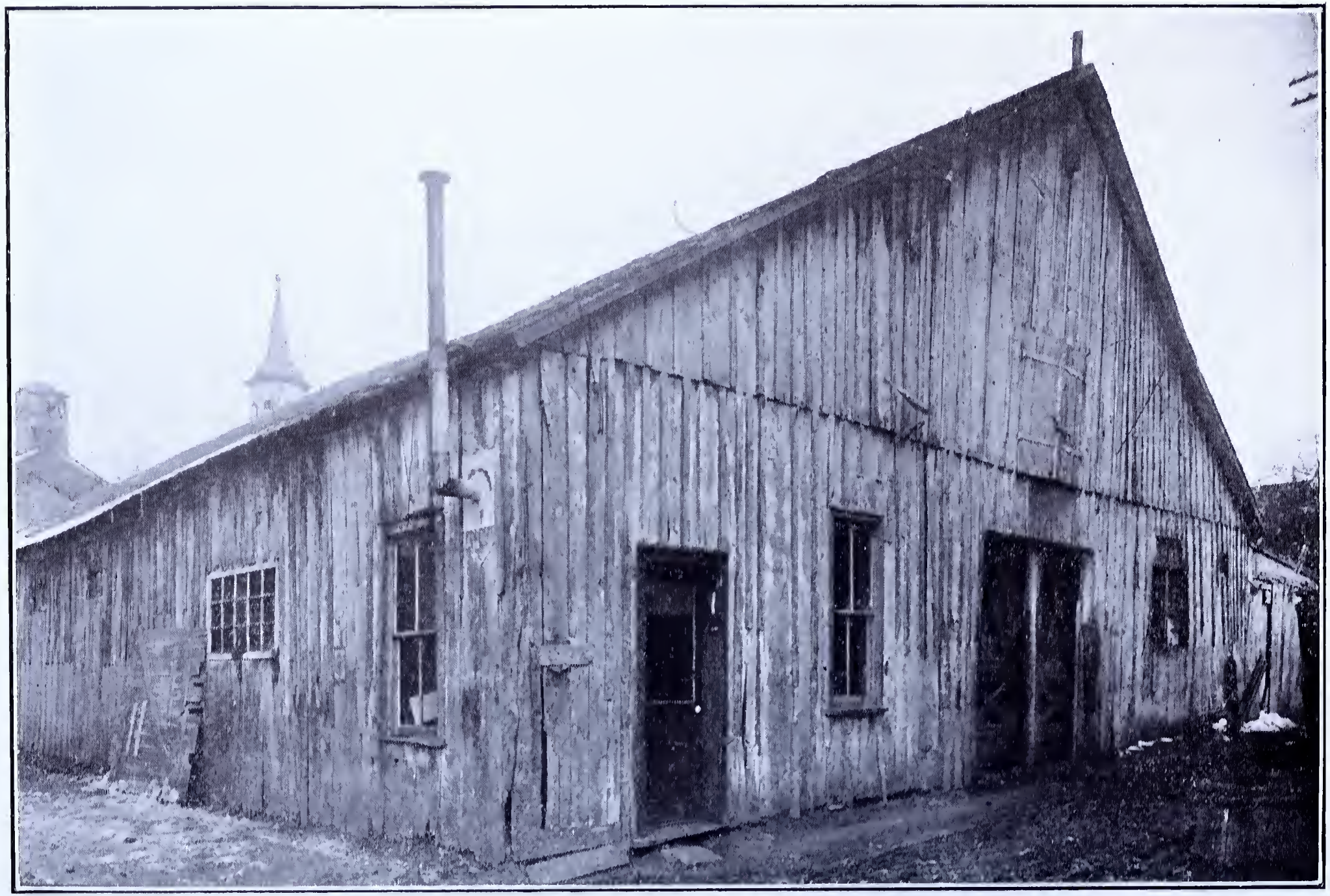

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DONT'S

Don't neglect to provide screens for open fires.

Don't connect gas stoves, heaters or plates with rubber hose.

Don't use gasoline, benzine, or other dangerous solutions to cleanse clothing near an open flame, light or fire.

Don't use gasoline, kerosene, benzine to light or quicken a slow fire.

Don't use liquid polishes near open lights, or to clean a hot stove. Many such compounds contain volatile oils.

Don't thaw frozen water pipes by applying a torch or open flame of any kind.

Don't look for a gas leak with match or open light.

Don't allow children to play with matches. Keep matches in a closed metal box out of reach of children.

Don't go into closets with lighted match or candle.

Don't throw away a cigar or cigarette stub until all fire is gone.

NUMBER OF FIRES REPORTED SHOWING VALUE OF PROPERTY LOSS AND INSURANCE.

During the Month of August, 1919.

(Exclusive of Philadelphia and Pittsburgh.)

Counties.	Number of Fires.	Estimated Value.	Estimated Loss.	Amount of Insurance.
Adams,	2	$8,500	$8,005	$4,470
Allegheny,	56	128,242	30,799	88,150
Armstrong,	11	31,200	23,363	11,150
Beaver,	10	16,734	5,243	12,400
Bedford,	3	5,772	4,932	3,500
Berks,	29	445,505	16,421	36,700
Blair,	21	56,765	3,340	34,950
Bradford,	9	46,925	15,721	25,430
Bucks,	10	29,300	11,516	22,150
Butler,	8	12,470	7,721	7,825
Cambria,	15	32,182	4,923	23,800
Cameron,	2	3,000	426	2,000
Carbon,	2	6,200	1,493	3,000
Centre,	4	10,300	784	6,900
Chester,	10	54,151	16,505	24,200
Clarion,	6	35,500	25,454	14,800
Clearfield,	14	27,975	8,015	19,100
Clinton,	4	3,700	1,990	1,900
Columbia,	6	9,900	1,186	7,600
Crawford,	17	25,622	11,790	12,650
Cumberland,	8	20,990	10,910	12,862
Dauphin,	18	54,323	9,472	37,500
Delaware,	9	20,500	9,373	16,200
Elk,	1	1,500	24	1,500
Erie,	45	311,839	15,719	817,850
Fayette,	14	114,218	9,098	44,950
Franklin,	4	6,984	4,875	3,375
Fulton,	1	1,100	800	800
Greene,	1	500	300	300
Huntingdon,	4	5,165	543	3,400
Indiana,	10	21,645	14,100	8,050
Jefferson,	6	17,606	2,722	6,850
Lackawanna,	36	77,065	19,799	46,250
Lancaster,	14	38,850	24,185	22,515
Lawrence,	9	18,070	5,265	12,300
Lebanon,	3	16,080	15,485	7,150
Lehigh,	9	387,929	30,077	172,250
Luzerne,	29	74,165	10,418	49,960
Lycoming,	8	19.598	3,925	10,640
McKean,	6	11,242	1,874	6,175
Mercer,	28	480,636	310,669	282,409
Mifflin,	3	16,000	2,005	9,600
Monroe,	4	10,450	9,601	5,150
Montgomery,	15	47,600	8,722	33,810
Northampton,	9	104,361	36,718	71,000
Northumberland,	10	146,235	1,142	129,710
Perry,	4	1,572	1,202	1,470
Pike,	1	500	20	500
Potter,	5	3,050	1,050	2,700
Schuylkill,	13	87,875	6,490	42,900
Snyder,	3	3,400	1,919	1,735
Somerset,	8	47,859	2,721	33,950
Sullivan,	1	2,282	2,282	700
Susquehanna,	7	23,650	15,817	14,450
Tioga,	9	16,150	5,778	7,750
Venango,	10	21,570	5,995	14,380
Warren,	4	7,992	2,049	4,050
Washington,	15	35,111	20,849	20,800
Wayne,	18	34,290	17,543	19,090
Westmoreland,	34	731,825	23,787	247,350
Wyoming,	2	2,275	455	1,500
York,	14	36,629	6,223	26,275
Total,	691	$4,070,624	$871,629	$2,614,831

CLASS OF STRUCTURES DESTROYED OR DAMAGED BY FIRE.
During the Month of August, 1919.
(Exclusive of Philadelphia and Pittsburgh.)

Structures.	Number of Fires.	Loss.
Academies, boarding schools, colleges, universities,	1	$5,000
Apartment houses, boarding houses, dwellings,	266	60,034
Automobiles,	12	2,062
Bank and office buildings,	3	1,292
Barns and stables (city and town),	23	38,019
Billiard (pool) halls and bowling alleys,	1	79
Chapels and churches,	6	774
Club, lodge and society rooms,	1	5
Cottages, club houses and season homes,	4	1,256
Farm Property:		
Barns and stables,	124	223,309
Dwellings,	134	64,488
Outbuildings,	10	9,869
Fire department houses,	3	8,141
Garages, private,	3	1,343
Garages, public,	5	1,480
Hospitals and sanitariums,	1	12
Hotels,	2	125
Junk shops and yards,	1	30
Livery and sale stables,	2	258
Manufacturing and Industrial Establishments:		
Bottling works,	2	800
Breweries,	1	15
Brick and clay works,	2	800
Carriages and wagons,	1	25
Feed and flour,	3	22,000
Iron and steel, blast furnaces, foundries, rolling mills,	1	4,000
Laundries,	1	750
Lumber yards,	3	19,256
Metal, miscellaneous,	3	3,998
Miscellaneous,	5	14,483
Oil refineries and well works,	4	5,619
Paints, varnishes, oils,	1	25,000
Planing mills,	1	13,000
Rubber goods,	1	112
Coal mining property,	1	2,300
Mercantile Establishments:		
Flour, feed and hay,	1	3,000
Groceries,	2	1,100
Meats,	1	110
Men's furnishings,	2	47
Miscellaneous with dwelling occupancy,	19	16,888
Restaurants,	1	10
Tailoring,	2	278,893
Tobacco and cigars,	1	135
Miscellaneous,	10	3,596
Miscellaneous,	4	179
Motorcycles,	1	20
Outbuildings (city and town),	5	515
Schools, public,	3	32,087
Tanks (inflammable oils and liquids),	1	725
Warehouses and storage:		
General storage,	6	4,590
Total,	691	$871,629

MATERIALS USED IN CONSTRUCTION OF BUILDINGS DESTROYED OR DAMAGED BY FIRE.

During the Month of August, 1919.

(Exclusive of Philadelphia and Pittsburgh.)

Material.	Number of Fires.	Loss.
Brick,	86	$328,932
Brick and stone,	1	132
Fireproof,	1	26
Stone,	5	8,372
Wood or frame,	555	415,997
Wood with brick or stone,	19	71,943
Unclassified,	16	2,116
Iron covered (galvanized),	3	25,385
Not reported,	5	18,726
Total,	691	$871,629

CAUSE OF FIRE AND LOSS INCURRED.

During the Month of August, 1919.

(Exclusive of Philadelphia and Pittsburgh.)

Cause.	Number of Fires.	Loss.
Adjoining fires,	34	$9,713
Ashes (hot), careless disposal,	1	235
Backfire,	4	721
Candle carelessness,	3	182
Chimney, flues, stacks (defective and overheated),	27	23,945
Cigars and cigarettes (lighted), carelessly discarded,	13	841
Clothing and curtains exposed to contact with stove, heating appliances, and unprotected lights,	12	279,081
Coals (hot), falling from stove, furnace or fireplace,	1	99
Cooking appliances (electric, gas, alcohol), carelessly used,	3	2,526
Electric, flat and gas iron carelessness,	6	188
Electric wiring, defective,	15	14,801
Explosions:		
Alcohol, gas and oil lamps,	5	1,676
Alcohol, gas and oil stoves and heaters,	14	5,352
Coal oil and kerosene, starting fires and filling lamps and lanterns,	1	15
Gas leak,	8	966
Gasoline, benzine, naphtha, careless use and cleaning with exposed to fire or unprotected lights,	9	2,624
Gasoline, pipe or storage leak,	2	2,510
Oils (inflammable), ignition,	1	32,000
Fireworks,	3	139
Flat iron and bricks (heated), used for warming purpose in bed,	1	18
Furnaces, heaters, stoves and their pipes, defective or overheated,	7	1,518
Fumigation	1	10
Grease ignition on stove,	2	1,012
Incendiary,	5	5,721
Lamps and lanterns, overturned,	1	10
Lightning (buildings rodded),	2	5,370
Lightning (buildings not rodded),	38	113,986
Lightning (no report as to rods),	212	60,898
Lime kiln operation,	1	100
Matches, careless use and keeping,	5	110
Matches, children,	24	2,546
Matches (lighted), carelessly discarded,	10	225
Metals (hot), asphalt, tar, pitch, wax, metal, etc., ignition of,	1	4,000
Miscellaneous,	6	257
Smoking, carelessness,	3	4,510
Smoking in bed,	3	223
Smoking meats,	1	110
Sparks,	1	1,087
Chimneys, flues, stacks, cupola,	21	4,845
Locomotive,	10	1,564
Motors,	2	145
Rubbish and brush burning,	5	17,794
Stationary engines, tractors, etc.,	3	4,555
Spontaneous combustion,	7	43,302
Torch carelessness,	6	4,177
Undetermined,	149	215,902
Woodwork and furniture exposed to contact with stove, heating appliances and unprotected lights,	2	20
Total,	691	$871,629

NUMBER OF INSPECTIONS MADE AND ORDERS ISSUED FOR REMOVAL OR REMEDYING OF FIRE HAZARDS.

During the Month of November, 1919.

Buildings Inspected.	Numbe of inspections.	Removal of or general repairs to dilapidated buildings.	Removal of rubbish and waste accumulation and regulating proper disposal thereof.	Regulating proper storage of explosives (petroleum products, chemicals, powder).	Repair chimney or stovepipe connections.	Repair roof.	Repair defective wiring.	Install fire extinguishers, sand or water buckets.	Close up openings in buildings.	Total number of orders.	Orders not necessary.
Apartment houses, boarding houses, dwellings,	129	26	10	0	88	65	0	0	2	191	0
Bank and office buildings,	2	0	1	0	0	0	0	0	0	1	1
Barns and stables (city and town),	16	15	7	0	0	1	0	0	1	24	0
Billiard (pool) halls and bowling alleys,	4	0	1	0	0	0	0	0	0	1	3
Farm Property: Dwellings,	1	1	1	0	0	0	0	0	0	2	0
Garages, public,	11	0	1	0	0	1	0	0	0	2	9
Hotels,	16	0	0	0	3	1	0	0	0	4	13
Manufacturing and Industrial Establisnments:											
Agricultural implements,	2	0	0	0	0	0	0	0	0	0	2
Automobiles and accessories,	2	0	0	0	0	0	0	0	0	0	2
Bakeries,	7	0	0	0	0	0	0	0	0	0	7
Bamboo and basketware,	2	0	0	0	0	0	0	0	0	0	2
Boots and shoes,	1	0	0	0	0	0	0	0	0	0	1
Box,	1	0	0	0	0	0	0	0	0	0	1
Carpenter shops,	1	1	0	0	0	0	0	0	0	1	0
Cigars and cigarettes,	16	1	0	0	0	0	0	1	0	2	14
Cleaning and dyeing.	1	0	0	0	0	0	0	0	0	0	1
Clothing (men's), linens, hats, caps, gloves,	5	0	0	0	0	0	0	0	0	0	5
Clothing (women),	1	0	0	0	0	0	0	0	0	0	1
Cobblers,	8	0	0	0	0	0	0	0	0	0	8
Feed and flour,	2	0	0	0	0	0	0	0	0	0	2
Furniture,	1	0	0	0	0	0	0	0	0	0	1
Hosiery and knitting,	3	0	0	0	0	0	0	0	0	0	3
Iron and steel, blast furnaces, foundries, rolling mills,	5	0	0	0	0	0	0	0	0	0	5
Laundries,	5	0	0	0	0	0	0	0	0	0	5
Leather goods and saddlery,	2	0	0	0	0	0	0	0	0	0	2
Machine and repair shops, variety,	5	0	0	0	0	0	0	0	0	0	5
Mattresses and upholstery,	1	0	0	0	0	0	0	0	0	0	1
Metal, miscellaneous,	2	0	0	0	0	0	0	0	0	0	2
Miscellaneous,	3	0	0	0	0	0	0	0	0	0	3
Musical instruments,	1	0	0	0	0	0	0	0	0	0	1
Planing mills,	1	0	0	0	0	0	0	0	0	0	1
Plumbing and tinning,	3	0	2	0	0	0	0	0	0	2	1
Printing establishments,	3	0	0	0	0	0	0	0	0	0	3
Silk and lace,	6	0	0	0	0	0	0	0	0	0	6
Tanneries,	1	0	0	0	0	0	0	0	0	0	1
Tobacco,	2	0	0	0	0	0	0	0	0	0	2
Woolen mills,	1	0	0	0	0	0	0	0	0	0	1
Express company offices and rooms,	1	0	0	0	0	0	0	0	0	0	1
Mercantile Establishments:											
Athletic and sporting goods,	1	0	0	0	0	0	0	0	0	0	1
Automobiles and accessories,	8	0	1	0	0	0	0	0	0	1	7
Barber shops,	5	0	0	0	0	0	0	0	0	0	5
Boots and shoes,	20	0	0	0	0	0	0	0	0	0	20
Confectionery and ice cream,	14	0	0	0	0	0	0	0	0	0	14
Department and general stores,	39	0	3	0	0	0	0	0	0	3	36

NUMBER OF INSPECTIONS MADE AND ORDERS ISSUED FOR REMOVAL OR REMEDYING OF FIRE HAZARDS—Concluded.

Buildings Inspected.	Number of inspections.	Removal of or general repairs to dilapidated buildings.	Removal of rubbish and waste accumulation and regulating proper disposal thereof.	Regulating proper storage of explosives (petroleum products, chemicals, powder).	Repair chimney or stovepipe connections.	Repair roof.	Repair defective wiring.	Install fire extinguishers, sand or water buckets.	Close up openings in buildings.	Total number of orders.	Orders not necessary.
Drugs and medicines,	17	1	1	0	0	0	0	0	0	2	15
Electrical and gas fixtures and supplies,	2	0	0	0	0	0	0	0	0	0	2
Flour, feed and hay,	3	0	0	0	0	0	0	0	0	0	3
General stores (rural),	2	0	0	0	0	0	0	0	0	0	2
Groceries,	70	0	3	1	0	0	0	1	0	5	65
Hardware,	18	1	1	0	0	0	0	0	0	2	16
House furnishings,	15	0	0	0	0	0	0	1	0	1	14
Jewelry,	6	0	0	0	0	0	0	0	0	0	6
Ladies' furnishings,	3	0	0	0	0	0	1	0	0	1	2
Leather goods and harness,	1	0	0	0	0	0	0	0	0	0	1
Meats,	11	0	1	0	0	0	0	0	0	1	10
Men's furnishings,	19	0	0	0	0	0	0	0	0	0	19
Millinery,	5	0	0	0	0	0	0	0	0	0	5
Miscellaneous with dwelling occupancy,	5	3	1	0	1	0	0	0	0	5	1
Musical instruments and sewing machines,	2	0	0	0	0	0	0	0	0	0	2
Notions and novelties,	11	0	3	0	0	0	0	0	0	3	8
Restaurants,	11	0	0	0	0	0	0	0	0	0	11
Stationery and wall paper,	7	0	0	0	0	0	0	0	0	0	7
Tailoring,	7	0	0	0	0	0	0	0	0	0	7
Tobacco and cigars,	8	0	0	0	0	0	0	0	0	0	8
Wholesale and retail groceries and fruits,	3	0	0	0	0	0	0	0	0	0	3
Miscellaneous,	10	0	2	0	0	0	0	0	0	2	8
Outbuildings (city and town),	10	10	5	0	0	0	0	0	0	15	0
Road houses, saloons and taverns,	8	0	0	0	1	0	0	0	0	1	7
Schools, public,	1	0	0	0	1	1	0	0	0	2	0
Theatres and motion picture houses,	1	0	0	0	0	0	0	0	0	0	1
Warehouses and Storage:											
General storage,	1	0	0	0	0	0	0	0	0	0	1
Total,	618	59	44	1	94	69	1	3	3	274	424

CASUALTIES AND FATALITIES.

Beginning with this issue we will publish in our monthly bulletin the record as reported to this Bureau of the Casualties and Fatalities caused by fires occurring in the State. Owing to the difficulty of securing such reports we can compile for the present only a partial list of such cases, hoping, however, that through the cooperation of our Assistants we will be able soon to give a complete monthly record of all cases.

Number of persons injured or deaths resulting from fires occurring in Pennsylvania as reported to the Bureau of Fire Protection during the month of October, 1919:

(Exclusive of Philadelphia and Pittsburgh.)

	Injured	Deaths
Male,	7	2
Female,	1	2
Total,	8	4

October 4. Frank Detig, clothes cleaner, age 40, Wilkinsburg, Allegheny County. Severely burned by careless use of gasoline.

October 5. Andy Janick, coal miner, age 35, Saltsburg Borough. Indiana County. Set fire to automobile by working at it with lighted miner's torch, severely burned.

October 10. John Allen, age 12, West Fallowfield Township, Crawford County. Severely burned in barn fire, cause undetermined.

October 14. A. P. Gardner, farmer, age 48, Jordan Township, Lycoming County. Severely burned in dwelling fire, cause undetermined.

October 21. George Simmons, coal miner, age 46, St. Clair Borough, Schuylkill County. Severely burned by gasoline igniting from lighted miner's torch which he was using while repairing his automobile.

October 24. John E. Dyer, fireman at store, age 25, Wilkinsburg, Allegheny County. Injured in fire of store and dwelling, cause undetermined.

October 30. David Rosenthal, merchant, age 50, Blairsville Borough, Indiana County. Received burns when his store caught fire, caused by lighted match igniting leaking gas.

October 14. Mrs. Sarah Gardner, housewife, age 35, Jordan Township, Lycoming County. Severely burned when her home caught fire, cause undetermined.

October 3. Zoerle Baby. Abbott Township, Potter County. Burned to death in house fire, cause undetermined.

October 30. Abraham Cunninghom, painter, age 33, Altoona, Blair County. Received fatal burns when his house was set on fire from the explosion of kerosene oil he used to start the kitchen fire.

October 30. Mrs. Wm. Smith, house wife, age 35 and her daughter, age 8, Mill Creek Township, Lycoming County. Were fatally burned in their home, fire caused by explosion of kerosene oil used to start kitchen fire.

CASUALTIES AND FATALITIES OCCASIONED BY FIRE, AS REPORTED.
January 1, 1919, to December 31, 1919.
(Exclusive of Philadelphia and Pittsburgh.)

Month.	Deaths.			Injured.		
	Male.	Female.	Total.	Male.	Female.	Total.
January,	0	1	1	1	1	2
February,	3	2	5	4	0	4
March,	5	4	9	5	5	10
April,	2	3	5	5	2	7
May,	7	3	10	2	3	5
June,	2	0	2	6	2	8
July,	4	0	4	7	1	8
August,	1	3	4	5	3	8
September,	8	0	8	4	1	5
October,	2	2	4	8	1	9
November,	1	1	2	3	2	5
December,	3	3	6	6	0	6
Total,	38	22	60	56	21	77

FIRE DEPARTMENT INSTRUCTION WORK.

In modern fire fighting it is absolutely necessary that each man should have individual training; but after he has received same, it is absolutely necessary that he put this knowledge to use in his team or company work, and he should fit into the personnel of his company, like one of the integral parts of a smooth running machine; therefore it becomes necessary that there should be company drills, and all the evolutions of fire school work should be rehearsed in the company drill. In company drills a truck company and a hose company should pull into the tower at the same time, and the following exercises should be indulged in:

1. Stretch line by stairway to roof; showing nozzle and portion of one over cornice. Back down and out of the building.
2. Stretch line to roof from outside of building; make line fast under the cornice and on the roof with approved knots.
3. Remove burst length between fourth floor and the roof; replace with new length.
4. Stretch line by ladder and stairway to fifth floor, showing nozzle through window. Back down and out of building.
5. Stretch one 3-inch lines from high pressure hydrant and connect to standpipe. Fire on the sixth floor.
6. Stretch 3-inch line and connect to standpipe floor valve. Outside connection out of order.
7. Stretch three lines and make connection to turret nozzle on hose wagon and operate same.
8. Stretch in as many 2½-inch lines as possible to lead out with one 3-inch line.
9. Stretch two lines and make connection to rail pipe and operate same.
10. Stretch 3-inch line and put on Paradox holder with proper size nozzle.
11. Stretch 3-inch line and put on street pipe and stick, with proper size nozzle.
12. Stretch 3-inch line and put on Eureka holder with proper size nozzle.

13. Stretch line by ladder to third floor, place line in proper position to operate through window and fasten with ladder strap.

14. Stretch lines and make connections to cellar pipe, sub-cellar pipe, Baker pipe, Hart pipe, and operate same.

15. Sretch 3½-inch line with three 2½-inch leading lines which can be controlled independently.

16. Make proper connection to take suction and place fresh water feed in service at fire.

17. Raise and operate aerial ladder.

18. Raise and lower 25, 30, 35 and 50-foot ladders.

19. Hoist 35-foot ladder to roof and lower same to yard.

20. Discharge life gun and throw line to roof.

Commanding officer explains all tools, implements and appliances. —Fire Protection.

"CIVIL WAR TODAY."

In an effort to interest the Young Idea in Fire Prevention the St. Paul Fire Insurance Exchange offered several prizes totalling $50 to the school children of St. Paul for the best 300 word essay on the subject. The contest was divided into three classes covering various phases of Fire Prevention. A large number of pupils participated in the contest and the work of the judges in selecting from the mass of manuscripts the winners was not an enviable task. "Civil War Today" was the title selected by a school boy, 16 years old, for his essay and it brought his first prize in the group of pupils participants between the ages of 14 and 20. His idea of real Fire Prevention is as follows:

Fire is America's greatest enemy—bar none. He is always ready to attack without warning. We must fight back. To admit defeat would be un-American—un-American, according to the standard we have set in the Great War. But we won't admit defeat. We'll fight back and win, but we need your help.

You would make a fine scout if you joined forces with your country in the battle against the hosts of General Fire. Your pay would be the knowledge that you are doing something to help your fellowmen and yourself. Your equipment would consist of one set of brains, in working order. Your duty would be to scout around and locate the long range gun of the enemy and drop bombs of propaganda and education upon it. You'll know this gun when you see it. It's called "Carelessness." The gun "Carelessness" is Fire's main reliance. If we destroy it the battle is won. But don't go into this fight with the idea that it's going to be a snap. It isn't. Crafty General Fire has his gun well camouflaged and if you aren't careful you may get shot yourself.

Sometimes, when his gun destroys a home, he makes you think it was little children who did it, playing with matches. It wasn't, though. It was Fire's gun "Carelessness" ably manned by the parents themselves, that caused the destruction. Old Fire is some strategist, he has us fighting against ourselves. When an oily piece of waste in an overall pocket causes a calamity, science calls it spontaneous combustion, but General Fire knows his gun has scored a direct hit. Then again, when a man pours kerosene on a fire or a woman leaves an electric iron turned on while she leaves the room, Fire knows his gun is working overtime. To vary the attack he sometimes sends across a few dum-dum bullets. These are cigarette stubs thrown near inflammable material, rubbish scattered carelessly about, campfires left burning, and other small but deadly ammunition. These bullets are fatal if they score a hit. They must be checked before they penetrate to the inner organs of the country. They are even more deadly than Fire's gas attack which consists of the mouthings of people who scoff at organized fire prevention. Yes, Fire has picked troops but ours are better. We are fitting up a "Carefulness" squadron. There won't be any second lieutenants or any other officers, for that matter, in this squadron; so don't hesitate. Join us now. Don't remain exposed in no man's land. Come over on our side and help your country fight the Fire Menace.

A WAY TO PREVENT FIRES.

An up-to-minute fire chief has had remarkable success in cutting down the fire loss in his city by aiding in every way possible to preven collection of fraudulent claims against insurance companies. Recently his department extinguished an incendiary fire before it had got a good start. When visiting the premises a few hours later, the chief discovered that the property owner was sprinking his goods with water in order to put in a water damage claim far in excess of that actually caused as a result of the fire. The fire chief immediately gave this property owner notice that if he attempted to get a return from the insurance company for the goods which he himself had damaged, he would find himself in immediate trouble. The result was that the man did not put in an excessive claim.

This particular fire chief, by watching carefully all suspicious fires and the actions of the property owner after the fire, has been of great aid to the local prosecuting attorney in ridding his community of those who burn to defraud. As a consequence, the loss ratio in his city has taken a rapid stride downward. This is surely real constructive work in fire prevention.—Extracts from Fire Protection.

FIRE AND EXPLOSIVE HAZARDS OF LAMPS.

Apart from leaving or placing a lamp where it may be easily overturned or broken, the hazards may be completely summed up in two terms: First, carelessness and neglect of cleaning and trimming; second, the not uncommon practice of keeping lamps where the temperature is above normal, as on a shelf back of and above the kitchen range or cook stove.

The prime factors of an actual explosion of lamps is low oil and a correspondingly large vapor space, since only the vapor is explosive. A certain admixture of air is necessary to produce an explosion, and

just how the air enters the font is not always clear, but possibly through the wick tube, or as frequently found, there is a small flat tube alongside of the wick tube which may be largely responsible for the from two to eight per cent. of air needed to assure a violent explosion, or the font may become ruptured or contents overheated and produce vapor.

Cause—

1. Lack of cleanliness.
2. Carlessness.
3. Poor choice of burners.

Remedy—

1. Do not use burners that are hard to clean.
2. Become acquainted with construction of burner and its hazardous features.
3. Keep strictly clean all points where oil and char accumuulates. If a burner of any type gives off an unpleasant odor (smell), take out wick and boil the burner for thirty minutes or more in a strong solution of baking or washing soda and rinse in clean hot water.
4. Keep wicks well trimmed and never let oil get low. If a wick is foul and needs to be turned up high, it is better to extinguish the lamp and trim wick.
5. If necessary to leave a lighted lamp unattended it is better to use a fresh lamp, one that has not been in use within several hours and is clean throughout, properly trimmed and full.
6. Do not blow down a chimney in extinguishing a lamp, blowing down involves serious hazard. Blow across the top, first turning the wick low.
7. Do not mount bracket lamps in such a position that they can be swung under shelves or curtains, or come in contact with them. Be certain in case of suspended or swinging lamps that they are securely supported by strong incombustible supports arranged to minimize the swing of the lamp.
8. Do not place swing lamps in strong drafts.
9. Keep the wick turned down below the top of the tube while unlighted.
10. Adhere to the advice and avoid danger.

MONTHLY BULLETIN

"MAKE PENNSYLVANIA FIREPROOF"

Department

OF

STATE POLICE

OF

Pennsylvania

BUREAU OF FIRE PROTECTION

OFFICE—ROOM 166
Capitol Building, Harrisburg, Pa.
HOWARD E. BUTZ, Chief of Bureau

VOL. VII FEBRUARY 1920 No. 4

SAFETY POINTS.

Be careful.

Exercise care always.

Carelessness cause of most fires.

Always take precaution against fire.

Remember to keep premises clean.

Eliminate fire hazards.

Fires are always the same size at the start.

Use safety first methods.

Lack of inspections is responsibile for disaster.

Allow nothing to interfere with preventing casualties.

Laziness and carelessness—partners.

Wilful waste makes woeful want.

Attention to details will bring results.

Young children should be taught how to avoid fires.

Stop Fire Waste by Fire Prevention.

Vol. VII No. 47

Monthly Bulletin

Department

OF

STATE POLICE

OF

Pennsylvania

BUREAU OF FIRE PROTECTION

HOWARD E. BUTZ, Chief of the Bureau

BULLETIN OF INFORMATION FOR THE PUBLIC

FEBRUARY, 1920

HARRISBURG, PA.:
1920.

VOLUNTEERS TO THE FRONT.

If an enemy succeeded in secretly massing its forces on the shores of our country, and proceeded to attack our army and mercilessly slaughter citizens and destroy millions of dollars of food stuff and other property, it would create an indignation that would at once be responded to by the massing of every able bodied man capable of shouldering a gun to repel the invaders and revenge the cruel wrongs. Not one red-blooded American would hesitate to volunteer his services and do his duty to his country, and yet, there is today a more cruel and unrelenting enemy. It is the FIRE DEMON which is permitted at will to exact a toll of many lives and millions of dollars worth of property annually and constituting a grave reflection on the intelligence of the people who are being constantly warned against this enemy and have the means at hand to repel attack. The ammunition for the battle is ready and means but a change of condition from CARELESSNESS TO CAREFULNESS to curb this unnecessary destruction of life and property. By concerted action this can be done, only needing enlistment in the Fire Prevention Army and continued fighting until the battle is won, thereby removing the enormous waste which threatens the destruction of National resources and adding to the burdens of the already over burdened by additional taxation to meet the great losses caused by fire. This greatly increased taxation comes directly from short-sightedness in permitting carelessness to continue, instead of thoughtfulness and carefulness. "Better be careful than sorrowful." should be the watchword of every community, and means adopted to combat this growing evil with strict adherence to conservation of all that makes for a life free from constant dread, lest some unexpected casualty should occur that would in a short space of time destroy the result of years of toil, and possibly hardships endured in the hopes of assuring to old age, peace and comfort. Many have been the instances where, in a few minutes, carelessness in little things have resulted in loss of accumulated treasures that required years to gather, and besides the destruction of property, the discouragement that followed has been

the means of wrecking lives and the end of all dreams of happiness, at thought of success gained, but shattered, and which could have been avoided by just a little thought for the prevention of an always possible event caused by man's best friend, fire when properly used as a means for productiveness, and man's bitterest enemy when care in handling is neglected, causing as it does, annually, losses of resources that are shocking to contemplate, and as disgraceful as unnecessary and amounting annually to over a quarter of billions of dollars, thus adding to the high cost of living by the increase cost placed on all commodities used to make up this wastage.

In 1915 the government found it imperative to check the destruction of resources by the prevention of fires and enlisted the services of every association and expert in the country in efforts to conserve the resources of the country, that the same might be brought into use for the support of troops and sustain those of other countries depending upon the United States for assistance during the stress of war. If it was necessary in 1915 to stop the ravage of fire, it is even more so now during the reconstruction period, and besides, there are even more reasons why extra exertion should be put forth for stopping fires. Housing conditions are desperate. The old world is starving for the food, clothing and shelter we can produce, and in accepting this responsibility it should be a spur to greater efforts, as an evidence of absolute need for more intensive public education that shall grasp the import and solve the problem of how to prevent, and to a degree recover from the shame of wilful waste in the face of so much distress and want.

Education of the whole people seems the only effective means of combating the carelessness which in the main is responsible for the great loss by fire, and it must be accomplished by getting together all elements in every community in the land and instructions given, accepted and carried out before it will achieve the purpose intended. While the continued scattering of literature may be of some value, still, in considering the vast amount distributed with the meagre betterment recorded, it intensifies the fact that personal contact with those in control of the dissemination of knowledge must be carried to all the people and effort made to show the benficial effect to the individual. In the conservation of resources it must be apparent that what is an advantage to the individual must be beneficial to all, and

that in saving from destruction the necessities of life, or the property of another, is in itself a humane and profitable one to other residents, as it removes the necessity of increasing the amount of taxation on other property make up for the loss of the property destroyed.

Years ago the dominant thought of all firemen was the extinguishment of fires. Prevention of fires was rarely thought of, but today, the causes of fires are known and can be largely removed, and it is the duty of not only the fireman to advance the movement, but it is the duty of every citizen to uphold and assist the fireman in so doing. Fires will always occur and will have to be extinguished, but the successful fire chief of the next decade will be the fire chief who most successfully "extinguishes his fires before they start," and every chief can be of that kind if he will exert himself by interesting the people of his community in preventing fires. Go to the newspapers, interview the editors, solicit their help in awakening the citizens to a realization of the local and National effect of the fire waste, and he will be successful in his solicitation as it is safe to say that there are very few papers published today lacking in that spirit of humanity, or local pride that would refuse to lend the use of its columns in advocacy of an object of such importance as the saving of life and property. Men's and women's clubs and organizations can be interested. Chambers of Commerce, Board of Trade, Credit Men's Associations, Rotary Clubs, Parents' and Teachers' Associations, and every other civic body can be approached and solicited to take up the work. School authorities are always ready to accept new ideas, and can any be advanced that is of more value than that of saving the lives of children should fire occur in a building under their charge?

New York with the largest Fire Department in the world, it being larger than the combined departments of the next five largest cities in the country, could not control the fire loss were it not for the important work of fire prevention, which is daily being carried out in each and every fire district. It would, otherwise, be an almost impossibility in the congested portions of New York to prevent a conflagration with loss of life that would startle the country. As it is, the New York Department, as a precautionary means to prevent great fires, have listed every large building, knowing time and material of construction, location of elevators, stairways and fire

escapes, and the occupancy of every floor and from the nature of flames and smoke can tell just what kind of a fire it is necessary to combat. As a matter of fact, the firemen know more about the building than the tenants. All this in the interest of fire prevention, and while the danger in a congested city is much greater than in smaller cities and boroughs, yet the same precautions should be carried out and every chief of a fire department should use his influence with his men and citizens to at once establish substantial committees in every section of the community for the prevention of fires by making a thorough examination of all buildings, listing the character of construction, exits and general conditions and where defective order the remedying of conditions and the removal of all fire menaces; by so doing, the work of the fire departments will be lessened and more time can be devoted to the prevention of fires and thus reduce the fire loss, which, in every section of the country, owing to existing carelessness, (the principal cause of all the fires that occur) will continue until associated activity of all property owners determine by concerted co-operation to put a stop to the enormous loss. It can be done by getting together and giving time to enforcing such ordinances that may exist for betterment of conditions and, if none exist, preparing them and having them adopted, and, when adopted, carried out, by officials charged with that duty.

With the increasing realization of the direct bearing on life and property loss of poor building construction, more thought is being given to the necessity of proper restrictions in matter of erection of buildings and more and more is the need of either a state or local Building Code apparent and it should be one of the very first ordinances provided by any or all communities where the same is not now in effect. This will mean better and safer construction and less fires. In having less fires, the property value of a community will continue to increase, and other improvements will follow until, if the right spirit is shown, it will result in ideal fireless cities and boroughs, with freedom from the fire blight which is now a disgraceful and costly proposition.

There are many ways in which the public is made to feel the burden which preventable waste and carelessness add to the cost of living. Property destroyed by fire is removed as a taxable asset of the community, but the cost to the municipality is not decreased and the

amount removed by fire must be made up among other taxpayers. One of the heaviest charges borne by a community is the cost of the fire department and by reason of the indifference and carelessness in regard to fire prevention now existing, it is necessary to maintain municipal fire departments, and the property owner who allows his home or other buildings to become a menace to the safety of adjoining buildings, is increasing the tax rate of all other property owners. And it does not stop there. It also increases the insurance rates of every policy holder in that community. By providing individual prevention of fires, as well as public protection, such as automatic sprinklers and fire walls, both the fire department maintenance and the insurance rates could be materially reduced, as such prevention and protection not alone lowers the burden borne by the public, but directly benefits the individual installing it. Moreover, it is within the reach of all who are willing to avail themselves of this plan, and the insurance companies will, if applied to in most instances, render assistance by advising methods for the safe-guarding of properties from the possible ravage by fire.

The high cost of every commodity that enters into daily use should be the one great incentive for the conservation of resources, and all means be adopted for the reduction of waste, and as fire is in itself the greatest producer of waste and extensively brought about by the negligence and carelessness of the people themselves, it offers the greatest source for saving and calls for immediate and continued effort. The causes of most fires are known; they are practically all the same size at the beginning and could be extinguished with possibly a bucket of water or smothered by a rug or blanket, and many thousand dollars that are now permitted to go up in smoke could be saved and the $290,000,000 annual wastage would be cut by many millions which could be used in helping to reduce the cost of living. There is no valid reason for this wastage, it is shameful and it is incumbent on every person throughout the land to lend a helping hand in changing conditions; it can be done without entailing hardship or extra exertion and simply means the changing from CARELESSNEES and neglect to CAREFULNESS and the elimination of all that is a fire menace, in homes, stores, manufactories, or elsewhere it may appear, and simply requires that more effective inspections be made of all premises and the remedying of conditions. This is simple and will

take but little time in organizing committees in each locality to work with fire departments and local authorities in carrying out a war on waste and saving the dollars now lost to be used in channels that will in a shorter time bring back normal conditions to the entire country and to the advantage and benefit of all the people.

Just so long as the public continues to ignore carelessness and are indifferent to the effects caused by carelessness, it will continue to pay higher prices for everything and this applies, used either in the household or in the marts of trade and in manufacturing. The sooner recognition is given to the fact that it is the public's duty to take a hand and assist municipal officers in bringing about a change in habits of all the people from CARELESSNESS to CAREFULNESS, just so long will additional burdens be imposed and the wastage from fire continue to increase to a greater and greater degree.

The way is open and but needs the guiding hand and willingness to bring success in knocking out Demon Fire.

HANDLING OF WASTES.

MACHINE-SHOP sweepings generally consist of oily waste, iron filings or borings, small pieces of wood, excelsior and, in some few instances, stray pieces of calcium carbide or the residue from an oxyacetylene machine. Sweepings are invariably more or less oily.

Iron filings or borings are subject to heating due to oxidation, which takes place very rapidly in the presence of moisture and the absence of oil on the metal. There are instances of piles of iron filings becoming heated to such an extent as to ignite woodwork.

Calcium carbide readily heats and gives off inflammable gas when moistened, likewise the oxyacetylene machine residue which has not spent its chemical action.

The wooden pieces and excelsior simply add fuel to the combination if ignited.

There arises the necessity of taking certain precautionary measures in the handling of machine shop sweepings. The sweepings should

never be allowed to lie on the floor overnight, but should be swept up and removed daily. Metal cans with lids form an excellent receptacle for storing the sweepings temporarily in the shop. Oily waste and inflammable material should be removed from filings before storing. Filings should then be deposited outside of the building where they will be sheltered from rain.

WASTE PAPERS.

Waste paper generally causes an uncleanly condition and invites an added fire hazard, which seems to vary with the building; in a modern constructed building the paper is kept in fair to good condition, while in an old inflammable building it is apt to be kept very poorly.

First. Starting at the desk the scrap paper is supposed to be deposited in the receptacles provided, such as manufactured paper baskets. (Too frequently paper is thrown on floor or lodges back of radiators.)

Second. Removed by janitor at night or early morning.

Third. Burned in open fireplaces, furnaces or stoves inside building, or outside of building exposing same; or taken to basement and stored in bins or old burlap bags. In a few cases a paper press is used.

Fourth. After sufficient quantity has accumulated it is sold directly or shipped to some central point for disposal.

With all the haphazard methods of caring for waste paper there is little wonder that so many fires can be attributed to its presence. Matches, supposedly out, are often thrown in the baskets, scraps on floors and tinder, and pieces lodged back of steam coils, in hot-air registers or near furnaces are very often ignited.

The compensation received for waste paper is very little, and it does not pay for the risk taken in storing it in buildings in a careless manner. A systematic collecting and storing of waste paper will make the operation a safe and profitable one.

MAKE IT EASIER TO BE SAFE.

The following suggestions are offered:

Provide incombustible receptacles for waste papers in all offices, preferably one at each desk.

Prohibit throwing papers on floors.

Empty all paper baskets each night and remove any paper in contact with the heating system.

Small quantities of waste paper are not worth saving for selling, and should be burned outside, away from buildings in a wire net incinerator so that burning pieces cannot be blown about. It is poor economic practice to use the heating apparatus in the building for burning, besides it presents a hazard in having it in the furnace room and also in that burning paper may get through flue openings not properly capped. Open fireplaces inside should never be used.

Where local facilities can be used to dispose of waste papers daily or every few days, a large metal-lined storage box with lid should be provided and kept in basement or outside of building for the temporary storage of the papers. This practice must be watched carefully and regulated so that the storage box is emptied before it is full.

SAFETY IN STORAGE.

In large office buildings, terminals and such property where waste paper accumulates rapidly, install a hand paper press. Keep press in basement, preferably in separate fire-proofed room.

Prohibit storing paper in bags.

Place all papers collected at night immediately in press or storage box.

Keep press and storage box out of furnace room.

Keep three fire pails filled with water or chemical fire extinguisher in storage room.

As soon as a number of bales of paper are collected arrange to dispose of same.

Fireproof rooms for waste paper can be constructed in basement, of concrete, brick or tile, equipped with fire doors or are attained by the lining of rooms with tile.

WASTE CANS.

Large quantities of cotton or wool waste are used in railroad properties for cleaning machinery or other purposes. Oily waste is liable to spontaneous ignition and has been a frequent cause of fire.

Cotton or wool waste or rags and an oxidizing oil, such as most animal or vegetable oils, form an undesirable combination, and when

used care must be taken to see that they are not allowed to lie around or be swept into corners, where they may heat and ignite. Pure mineral oil will not oxidize, and the hazard of spontaneous ignition is not present where this is used, but as the mineral oils are apt to be adulterated with vegetable or animal oils no feeling of security should be allowed to exist and the greatest care should be exercised.

Greasy and oily waste or rags are not only subject to spontaneous ignition, but make an intense fire, which is difficult to extinguish.

Metal cans of approved construction, supported on legs and having self-closing lids, should be distributed about shops, and orders issued that all oily waste should be placed therein. Cans should be emptied at close of the day's work, or oftener, if necessary, and oily waste burned or deposited in reclaiming bin. It is recommended that a special man, particularly in machine, paint, and wood-working shops, make a daily inspection of the entire building to remove any oily waste that had been carelessly left in out-of-way places, such as under benches, back of steam coils, etc.

The National Standard can is the best type obtainable and should be used. Cans bearing the label of the Underwriters' Laboratories may be obtained from various manufacturers.

RECLAIMING OIL FROM WASTE.

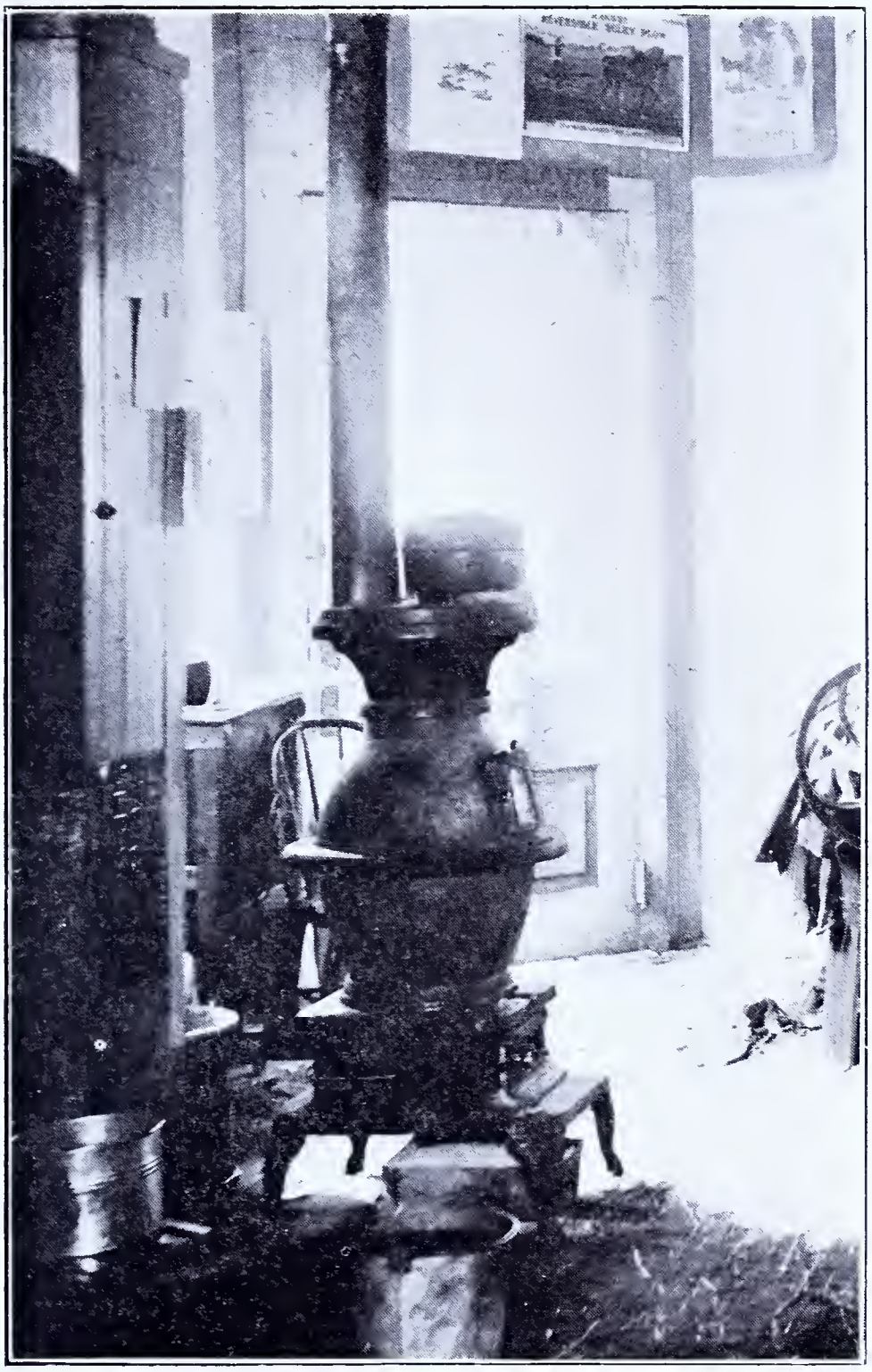
Where it is the practice to reclaim oil from waste and use the waste again, the process should be done in a room of fire-resisting construction or in a well-detached building.

CLEAN WASTE.

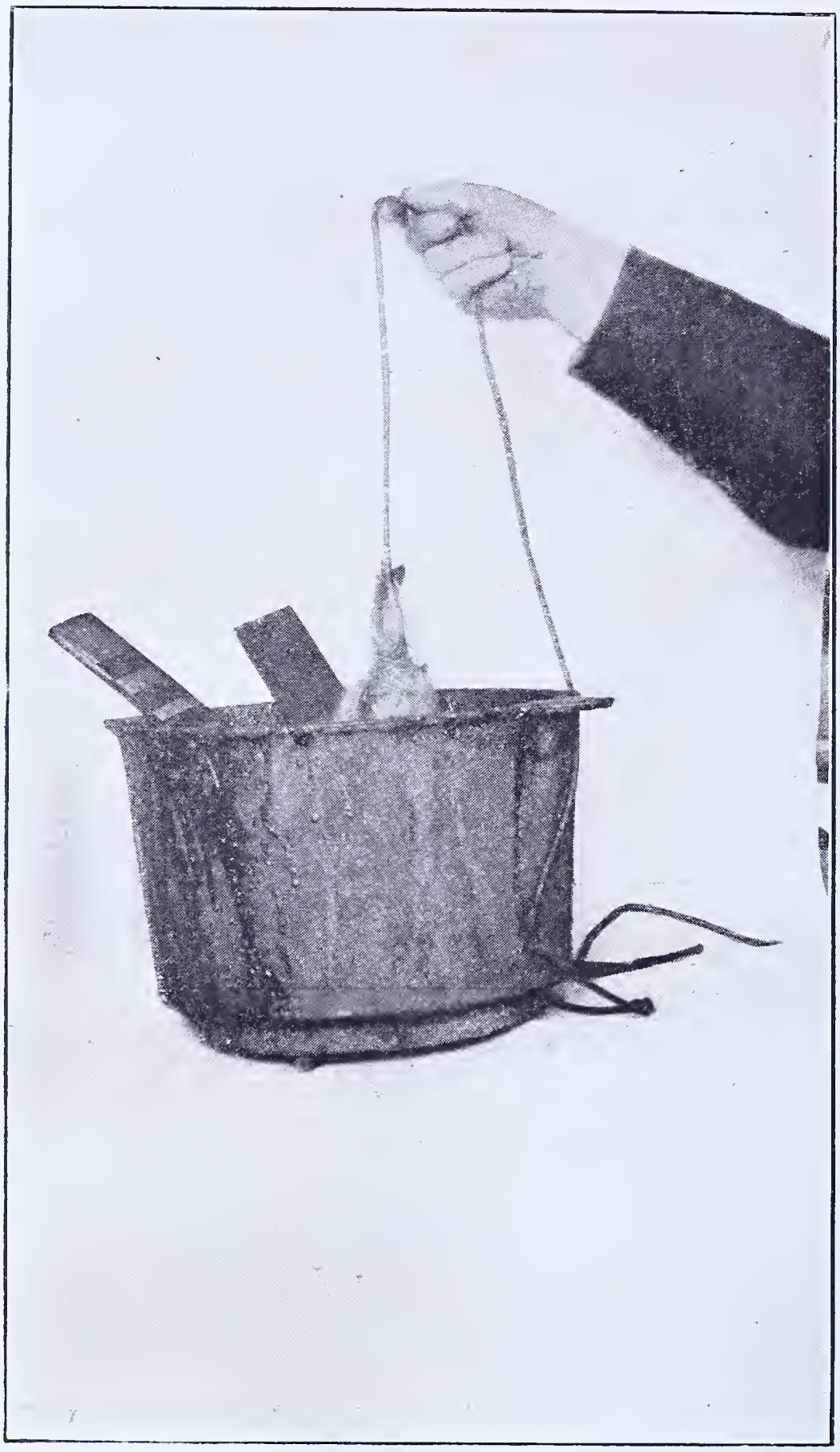
Metal waste cans or metal receptacles with covers are recommended for all supplies of clean waste in roundhouses, shop buildings or other miscellaneous properties, as almost any collection of so-called "clean waste" is liable to have in it oily waste, where an employee has used a small portion for wiping off machinery or for wiping in paint shops, etc. The common practice of each employee storing a supply of so-called "clean waste" in his wooden locker is hazardous.—Fire Protection.

CARELESSNESS.

Eighty per cent. of all fires are due to carelessness. All fires are the same size when they start. Both the above sentences are stock phrases and both are very nearly correct. It is the little blaze that could easily be extinguished at the start that some times burns an entire town. How many things do you do that may start the "little blaze?" Did you ever stop to think that the little innocent electric light drop cord that hangs in your office or home is often hung temporarily over a nail or book on the side wall to get it out of the way or to get light in a different place? Do you know that when the thin cloth cover is worn off and the wire comes into contact with the nail or hook that there is a direct current into the wood? A wet cord will make a pretty good connection without waiting for the cloth to become worn. If you are doing a careless trick of this kind you can quite likely avoid a possible fire by reforming before it is everlastingly to late. Do you know that when you throw down the greasy, oily rags that you use about the automobile you are creating a dangerous fire hazard.



Showing an attempt by an incendiary to destroy property for the purpose of fraudently collecting insurance, endeavoring at the same time to eliminate evidence of the crime, stove connected by fuse so planned that when ignited it would set fire to hay, paper and straw, saturated with gasoline and oil, and placed on the first and second floors, and at the same time set off powder contained in iron pot in cellar. The plan fortunately did not succeed and the would be fire bug was sentenced to the Eastern Penitentiary to not less than five nor more than seven years.



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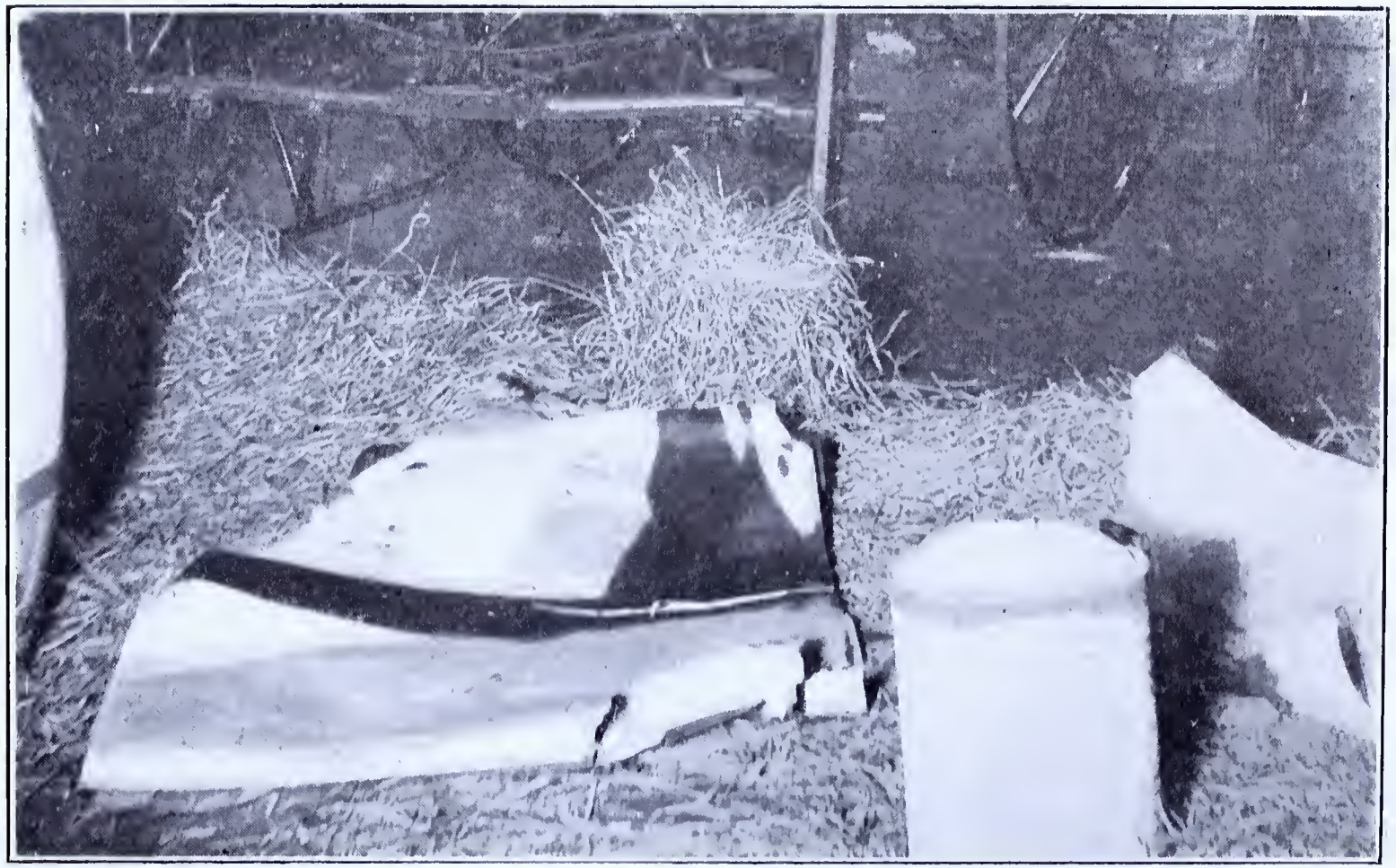

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NUMBER OF FIRES REPORTED SHOWING VALUE OF PROPERTY LOSS AND INSURANCE.

During the Month of September, 1919.

(Exclusive of Philadelphia and Pittsburgh.)

Counties.	Number of Fires.	Estimated Value.	Estimated Loss.	Amount of Insurance.
Allegheny,	36	$298,345	$28,679	$236,300
Armstrong,	4	7,810	5,638	3,940
Beaver,	11	45,133	5,423	26,533
Bedford,	7	7,219	3,365	3,750
Berks,	12	167,875	3,517	119,625
Blair,	12	54,525	4,304	53,100
Bradford,	13	43,720	25,952	25,250
Bucks,	6	22,243	13,735	10,250
Butler,	2	6,000	67	4,500
Cambria,	12	20,375	1,409	11,450
Cameron,	1	7,500	7,500	----------
Carbon,	2	7,000	100	5,000
Centre,	4	13,600	452	11,500
Chester,	10	69,435	5,610	13,950
Clarion,	3	4,655	1,074	2,600
Clearfield,	5	15,459	3,362	3,900
Clinton,	2	5,750	4,250	1,550
Columbia,	5	8,200	2,460	5,000
Crawford,	9	23,650	18,292	8,000
Cumberland,	14	14,085	3,809	7,870
Dauphin,	21	65,286	27,849	42,000
Delaware,	7	242,302	8,996	213,100
Elk,	3	19,758	2,153	12,800
Erie,	31	987,380	16,122	643,250
Fayette,	13	37,984	25,594	22,700
Forest,	2	3,907	3,621	1,250
Franklin,	6	10,183	8,083	4,800
Fulton,	1	382	210	210
Huntingdon,	8	33,028	21,063	15,450
Indiana,	7	24,725	18,346	9,550
Jefferson,	1	1,925	1,200	1,250
Juniata,	1	400	400	400
Lackawanna,	40	998,350	197,825	807,055
Lancaster,	11	16,950	2,768	15,950
Lawrence,	13	134,775	2,370	111,580
Lebanon,	2	2,000	200	1,000
Lehigh,	14	46,956	17,771	35,675
Luzerne,	46	191,293	25,876	83,025
Lycoming,	10	164,675	1,907	106,900
McKean,	10	71,533	5,951	29,300
Mercer,	12	19,950	6,700	11,950
Mifflin,	3	11,900	7,008	4,600
Monroe,	1	1,100	70	800
Montgomery,	7	19,200	6,028	14,475
Montour,	3	11,400	8,337	2,000
Northampton,	11	52,800	7,377	26,550
Northumberland,	3	8,516	3,018	4,453
Perry,	2	7,300	5,868	3,760
Pike,	1	1,200	5	1,200
Potter,	1	6,000	3,500	3,500
Schuylkill,	16	398,253	5,395	77,900
Snyder,	1	2,550	1,750	1,050
Somerset,	4	14,086	13,086	7,100
Sullivan,	1	2,000	4	2,000
Susquehanna,	7	27,150	6,772	10,650
Tioga,	4	5,800	2,063	3,910
Venango,	7	30,400	2,659	7,100
Warren,	3	47,786	16,902	37,400
Washington,	22	47,868	13,452	29,064

NUMBER OF FIRES REPORTED SHOWING VALUE OF PROPERTY LOSS AND INSURANCE—Concluded.

Counties.	Number of Fires.	Estimated Value.	Estimated Loss.	Amount of Insurance.
Wayne,	4	3,700	2,205	1,950
Westmoreland,	14	600,100	30,870	494,405
Wyoming,	5	4,528	1,745	2,302
York,	15	36,412	12,868	16,444
Total,	564	$5,166,370	$685,985	$3,475,876

CLASS OF STRUCTURES DESTROYED OR DAMAGED BY FIRE.

During the Month of September, 1919.

(Exclusive of Philadelphia and Pittsburgh.)

Structures.	Number of Fires.	Loss.
Apartment houses, boarding houses, dwellings,	251	$64,330
Automobiles,	4	1,457
Bank and office buildings,	3	189
Barns and stables (city and town),	20	6,468
Billiard (pool) halls and bowling alleys,	1	25
Bridges,	3	37
Chapels and churches,	3	13,590
Club, lodge and society rooms,	2	2,470
Cottages, club houses and season homes,	1	11
Farm crops in fields,	4	612
Farm Property:		
Barns and stables,	63	139,211
Dwellings,	85	106,783
Outbuildings,	4	1,976
Fences,	1	7
Garages—Private,	1	300
Garages—Public,	3	3,150
Hospitals and sanitariums,	1	25
Hotels,	3	3,482
Junk shops and yards,	1	3,685
Livery and sale stables,	2	623
Manufacturing and Industrial Establishments:		
Abbatoirs and slaughter houses,	1	750
Acids and chemicals,	1	75
Ammunition, high explosives and shells,	1	7,500
Bakeries,	2	505
Blacksmith shops,	1	15
Brick and clay works,	1	57
Carpenter shops,	1	71
Cement, concrete and stone,	1	2,000
Cigars and cigarettes,	1	10
Cleaning and dyeing,	1	150
Creameries,	1	35
Feed and flour,	1	27
Furniture,	1	14,003
Glass,	1	25
Ice cream,	1	6,000
Iron and steel, blast furnaces, foundries, rolling mills,	2	1,075
Lumber yards,	1	5,100

CLASS OF STRUCTURES DESTROYED OR DAMAGED BY FIRE—Concluded.

Structures.	Number of Fires.	Loss.
Metal—Miscellaneous,	6	$5,024
Miscellaneous,	3	15,501
Oil refineries and well works,	3	3,260
Paper and pulp,	1	400
Planing mills,	1	100
Plumbing and tinning,	1	35
Rubber goods,	1	172
Saw mills,	2	1,525
Coal mining property,	2	7,636
Textile,	1	1,012
Mercantile Establishments:		
Confectionery and ice cream,	2	2,652
Department and general stores,	3	95
Drugs and medicines,	1	3,407
Flour, feed and hay,	1	100
General stores (rural),	1	55
Groceries,	4	8,033
Hardware,	3	3,830
Market houses,	1	16,000
Meats,	2	280
Men's furnishings,	1	14
Miscellaneous and dwelling establishments,	23	40,185
Wholesale and retail groceries and fruits,	1	115
Miscellaneous,	12	185,150
Miscellaneous,	1	10
Outbuildings (city and town),	5	540
Railroad (Steam) Property:		
Freight rolling equipment,	2	575
Miscellaneous,	1	300
Schools—Public,	1	3,500
Tanks (inflammable oils and liquids),	1	35
Theatres and motion picture houses,	1	15
Warehouses and Storage:		
Ice,	1	600
Total,	564	$685,985

MATERIALS USED IN CONSTRUCTION OF BUILDINGS DESTROYED OR DAMAGED BY FIRE.

During the Month of September, 1919.

(Exclusive of Philadelphia and Pittsburgh.)

Material.	Number of Fires.	Loss.
Brick,	83	$39,449
Brick and stone,	2	186
Concrete,	2	2,172
Fireproof,	1	50
Stone,	11	10,345
Wood and frame,	436	415,180
Wood with brick or stone,	14	209,289
Unclassified,	10	2,114
Iron covered (galvanized,	1	25
Not reported,	4	7,175
Total,	564	$685,985

CAUSE OF FIRE AND LOSS INCURRED.

During the Month of September, 1919.

(Exclusive of Philadelphia and Pittsburgh.)

Cause.	Number of Fires.	Loss.
Adjoining fires,	38	$38,099
Ashes (hot)—Careless disposal,	3	1,759
Backfire,	5	2,405
Candle carelessness,	5	159
Chimney—Flues—Stacks—Defective and overheated,	27	13,637
Cigars and cigarettes (lighted)—Carlessly discarded,	17	4,987
Clothing and curtains exposed to contact with stove, heating appliances and unprotected lights,	8	213
Coals (hot)—Falling from stove, furnace or fireplace,	1	34
Cooking appliances (electric—gas—alcohol)—Carelessly used,	1	25
Electric, flat and gas iron—Carelessness,	8	4,386
Electric wiring—Defective,	16	8,394
Explosions:		
Alcohol, gas and oil lamps,	5	1,858
Alcohol, gas and oil stoves and heaters,	15	5,194
Chemicals and acids,	1	7,500
Gas leak,	8	296
Gasoline—Benzine—Naphtha—Careless use and cleaning with, exposed to fire or unprotected lights,	3	2,410
Gasoline—Straining through chamois (static electricity),	1	172
Oils (inflammable)—Ignition,	4	859
Water back,	1	15
Fireworks,	2	1,520
Flat irons and bricks (heated)—Used for warming purpose in bed,	1	37
Furnaces, heaters, stoves and their pipes—Defective or overheated,	4	3,181
Fumigation,	2	26
Grease ignition on stove,	4	99
Incendiary,	8	27,361
Lightning—(Buildings not rodded),	5	11,278
Lightning—(No report as to rods),	60	15,342
Lime kiln operation,	1	57
Matches—Careless use and keeping,	17	1,073
Matches—Children,	25	5,441
Matches (lighted)—Carelessly discarded,	5	204
Metals (hot)—Asphalt, tar, pitch, wax, metal, etc., ignition of,	2	178,252
Miscellaneous,	10	1,412
Ovens (bakery)—Defective or overheated,	1	500
Plumber's furnace—Flareup,	1	50
Smoking—Carelessness,	5	6,071
Smoking in bed,	2	54
Sparks:	1	550
Chimneys, flues, stacks, cupola,	20	10,817
Forge—Molten metal,	3	140
Locomotive,	11	8,642
Rubbish and brush burning,	7	2,632
Stationary engines—Tractors, etc.,	9	47,503
Spontaneous combustion,	10	6,715
Torch carclessness,	1	10
Undetermined,	175	264,167
Vulcanizing,	1	7
Woodwork and furniture exposed to contact with stove, heating appliances and unprotected lights,	4	402
Total,	564	$685,985

NUMBER OF INSPECTORS MADE AND ORDERS ISSUED FOR REMOVAL OR REMEDYING OF FIRE HAZARDS.

During the Month of December, 1919.

Buildings Inspected.	Number of Inspections.	Removal of or general repairs to dilapidated buildings.	Removal of rubbish and waste accumulation and regulating proper disposal thereof.	Regulating proper storage of explosives (petroleum products, chemicals, powder).	Repair chimney or stovepipe connections.	Repair roof.	Repair defective wiring.	Change or repair lighting arrangement.	Install fire extinguishers, sand or water buckets.	Close up openings in buildings.	Place metal or asbestos protection around heat appliances or installation of other fire retardents.	Total number of orders.	Orders not necessary.
Apartment houses, boarding houses, dwellings,	36	9	11	0	18	17	0	1	0	0	0	56	3
Bank and office buildings,	5	0	0	0	0	0	0	0	0	0	0	0	5
Barns and stables (city and town),	5	5	4	0	0	0	0	0	0	0	0	9	0
Billiard (pool) halls and bowling alleys,	8	1	2	0	0	0	0	0	0	0	0	3	6
Cottages, club houses and season homes,	1	1	1	1	1	0	0	0	0	0	0	4	0
Farm Property:													
Barns and stables,	1	1	1	0	0	0	0	0	0	0	0	2	0
Garages—Public,	15	0	2	0	1	2	0	0	2	0	0	7	11
Hotels,	16	1	1	0	0	0	0	0	0	0	0	2	15
Manufacturing and Industrial Establishments:													
Bakeries,	7	0	0	0	0	0	0	0	0	0	0	0	7
Carpets and rugs,	2	0	0	0	0	0	0	0	0	0	0	0	2
Carriages and wagons,	2	0	0	0	0	0	0	0	0	0	0	0	2
Cleaning and dyeing,	2	0	0	0	0	0	0	0	0	0	0	0	2
Clothing (men's) linens, hats, caps, gloves,	3	0	0	0	0	0	0	0	0	0	0	0	3
Cobblers,	12	1	3	0	0	0	0	0	0	0	0	4	9
Feed and flour,	3	0	0	0	0	0	0	0	0	0	0	0	3
Hosiery and knitting,	4	0	0	0	0	0	0	0	0	0	0	0	4
Laundries,	3	0	0	0	0	0	0	0	0	0	0	0	3
Leather goods and saddlery,	1	0	0	0	0	0	0	0	0	0	0	0	1
Machine and repair shops—Variety,	1	0	0	0	1	1	0	0	0	0	0	2	0
Mattress and upholstery,	1	0	0	0	0	0	0	0	0	0	0	0	1
Miscellaneous,	4	0	0	0	0	0	0	0	0	0	0	0	4
Paper and pulp,	2	0	0	0	0	0	0	0	0	0	0	0	2
Planing mills,	6	2	3	0	0	0	1	0	0	0	0	6	0

NUMBER OF INSPECTORS MADE AND ORDERS ISSUED FOR REMOVAL OR REMEDYING OF FIRE HAZARDS—Continued.

Buildings Inspected.	Number of inspections.	Removal of or general repairs to dilapidated buildings.	Removal of rubbish and waste accumulation and regulating proper disposal thereof.	Regulating proper storage of explosives (petroleum products, chemicals, powder).	Repair chimney or stovepipe connections.	Repair roof.	Repair defective wiring.	Change or repair lighting arrangement.	Install fire extinguishers, sand or water buckets.	Close up openings in buildings.	Place metal or asbestos protection around heat appliances or installation of other fire retardents.	Total number of orders.	Orders not necessary.
Plumbing and tinning,	5	0	1	0	0	0	0	0	0	0	0	1	4
Printing establishments,	3	0	0	0	0	0	0	0	0	0	0	0	3
Rubber goods,	1	0	0	0	0	0	0	0	0	0	0	0	1
Silk and lace,	2	0	0	0	0	0	0	0	0	0	0	0	2
Woolen mills,	2	0	0	0	0	0	0	0	0	0	0	0	2
Mercantile Establishments:													
Automobiles and accessories,	3	0	0	0	0	0	0	0	0	0	0	0	3
Barber shops,	7	1	1	0	0	0	0	0	0	0	0	2	6
Boots and shoes,	17	0	1	0	0	0	0	0	0	0	0	1	16
Confectionery and ice cream,	22	0	2	0	0	0	0	0	0	0	0	2	20
Department and general stores,	39	0	3	0	0	0	0	0	0	0	0	3	36
Drugs and medicines,	27	0	4	0	1	0	0	0	0	0	0	5	22
Electrical and gas fixtures and supplies,	4	0	1	0	0	0	0	0	0	0	0	1	3
Flour, feed and hay,	8	1	1	0	0	0	0	0	0	0	0	2	6
General stores (rural),	2	0	0	0	0	0	0	0	0	0	0	0	2
Groceries,	129	1	18	0	0	0	0	0	0	1	1	21	111
Hardware,	18	0	1	0	0	0	0	0	0	0	0	1	17
House furnishings,	32	0	3	0	0	0	0	0	1	0	1	5	27
Jewelry,	4	0	1	0	0	0	0	0	0	0	1	2	3
Ladies' furnishings,	10	0	1	0	0	0	0	0	0	0	0	1	9
Leather goods and harness,	1	0	0	0	0	0	0	0	0	0	0	0	1
Meats,	19	0	0	0	0	0	0	0	0	0	0	0	19
Men's furnishings,	30	0	3	0	0	0	0	0	0	0	0	3	27
Millinery,	8	0	1	0	0	0	0	0	0	0	0	1	7
Miscellaneous with dwelling occupancy,	5	0	0	0	0	0	0	0	0	0	0	0	5
Musical instruments and sewing machines,	4	0	0	0	0	0	0	0	0	0	0	0	4
Notions and novelties,	13	0	0	0	0	0	0	0	0	0	0	0	13

Photographers,	1	0	0	0	0	0	0	0	0	0	0	0	1
Restaurants,	14	0	0	0	0	0	0	0	0	0	0	0	14
Stationery and wall paper,	8	0	2	0	0	0	0	0	0	0	0	2	6
Tailoring,	7	0	1	0	0	0	0	0	0	0	0	1	6
Tobacco and cigars,	19	0	0	0	0	0	0	0	0	0	0	0	19
Undertaking,	1	0	0	0	0	0	0	0	0	0	0	0	1
Wholesale and retail groceries and fruits,	12	2	2	0	0	0	0	0	0	0	0	4	10
Miscellaneous,	5	0	0	0	0	0	0	0	0	0	0	0	5
Outbuildings (city and town),	7	7	2	0	0	0	0	0	0	0	0	9	9
Road houses, saloons and taverns,	2	0	0	0	0	0	0	0	0	0	0	0	2
Theatres and motion picture houses,	5	0	0	0	0	0	0	0	0	0	0	0	5
Warehouses and Storage:													
General storage,	3	0	2	0	0	0	0	0	0	0	0	2	1
Total,	639	33	79	1	22	20	1	1	3	1	3	164	522

CASUALTIES AND FATALITIES.

November, 1919.

(Exclusive of Philadelphia and Pittsburgh.)

	Injured.	Deaths.
Male,	3	1
Female,	3	4
Total,	6	5

November 6. Leonard Jennings, aged 25, Electrician, Ardmore Borough, Montgomery County. Burned when leaking gas ignited by lighted match.

November 29. John Lodemis, age 45, Farmer, Lehman Township, Luzerne County. Severely burned when his barn caught fire from overturned lantern.

November 29. Edwin Gibbs, age 66, Shoemaker, Altoona, Blair County, received burns when his home caught fire caused by ignition of leaking gas.

November 4. Mrs. Michael Twaine, age 33, Housewife, Altoona, Blair County. Severely burned at her home by starting the kitchen fire with kerosene oil.

November 4. Michael Twaine, age 35, Laborer, Altoona, Blair County, was fatally burned in his home by an explosion of kerosene oil, which he was using to start the kitchen fire.

November 18. Miss Stella Myers, age 19, helper at Y. M. C. A., Oil City, Venango County, was severely burned when her home caught fire. Cause undetermined.

November 28. Miss Edna West, age 23, employed in Baby Carriage Factory, Washington Borough, Washington County, was slightly burned when the factory caught fire from an explosion of paints and varnishes.

November 16. Belle Humbert, age 12, Carlisle, Cumberland County, was burned to death at her home. Caused by her clothing catching fire from stove.

November 23. Mildred Tarleski, age 3, Bridgeport Borough, Montgomery County, while playing with matches at her home. Set fire to her clothing, receiving burns from which she died at the hospital.

November 25. Martha May Mosier, age 18 months, Ken Borough, McKean County, was suffocated in her home when clothes which were hanging too near the stove caught fire.

November 28. Miss Alma Jennings, age 19, employed in Baby Carriage Factory, Washington Borough, Washington County, was burned to death when an explosion of paints and varnishes set fire to the factory.

DEPARTMENT OF STATE POLICE

BUREAU OF FIRE PROTECTION.

NUMBER OF FIRES REPORTED.

January 1st to December 31st, 1919.

(Exclusive of Philadelphia and Pittsburgh.)

Month.	Number of Fires.	Value.	Loss.	Insurance.
January,	1,309	$14,876,022	$2,089,077	$10,399,022
February,	981	8,994,035	1,113,859	7,772,529
March,	1,273	15,005,413	2,249,269	14,432,978
April,	834	6,228,843	1,171,631	2,976,908
May,	667	3,217,394	612,707	2,207,214
June,	1,080	5,203,931	817,818	3,243,120
July,	1,138	7,464,774	1,099,181	6,057,926
August,	724	4,432,263	880,564	2,957,351
September,	538	5,101,442	679,572	3,428,161
October,	396	6,184,464	592,359	5,481,272
November,	357	4,706,693	1,664,484	4,282,824
December,	193	2,572,696	392,720	4,161,552
Total,	9,490	$83,987,970	$13,362,241	$67,400,877

Note:—Owing to the legal provision permitting Insurance Companies certain periods for adjustment and settlement of losses, the total number of fires for October, November and December are not included, owing to lack of information and when final reports are received the total number of fires will probably be increased by from 1,500 to 2,000—with corresponding increase in value, loss and insurance.

DEPARTMENT OF STATE POLICE

BUREAU OF FIRE PROTECTION.

Harrisburg, Pennsylvania.

INVESTIGATION OF REPORTED INCENDIARY LOSSES.

January 1st, 1919 to December 31st, 1919.

(Exclusive of Philadelphia and Pittsburgh.)

Number investigated,		353
Convictions,	53	
Acquittals,	14	
Left jurisdiction of State,	2	
No evidence of incendiarism,	112	
Insufficient evidence to warrant prosecution,	94	
Awaiting trial,	12	
Remaining under investigation,	66	
		353

INSPECTION MADE AND ORDERS ISSUED FOR REMOVAL OR REMEDY OF FIRE HAZARDS.

January 1st, 1919 to December 31st, 1919.

(Exclusive of Philadelphia and Pittsburgh.)

1	Removal of or general repairs to dilapidated buildings,	528
2	Removal of rubbish and waste accumulation and regulating proper disposal thereof,	729
3	Regulating proper storage of explosives (petroleum products, chemicals, powder),	38
4	Repair chimney or stovepipe connections,	174
5	Repair roof,	164
6	Repair defective wiring,	77
7	Change or repair heating arrangement,	32
8	Change or repair lighting arrangement,	61
9	Install fire extinguishers, sand or water buckets,	31
10	Close up openings in buildings,	21
11	Place metal or asbestos protection around heat appliances or installation of other fire retardents,	57
12	Miscellaneous—Not classified,	7
	Total number of orders issued,	1,919
	Orders not necessary,	5,344
	Total number of inspections made,	6,629

FIRE PREVENTION PLANS.

Fire prevention plans adopted and put into effect by the Chamber of Commerce of Oklahoma City, are especially worthy of consideration and emulation by every like association in the cities and boroughs of Pennsylvania, as not alone a prevention measure, but for a betterment of living conditions and a reduction of the fire waste and saving in taxation.

The committee is composed of thirty-five prominent business men of the City, a number of whom are in the fire insurance business, others engineers and all men of recognized standing in the community. This committee is divided into five sub-committees to look after, first, water supply; second, fire stations and equipment; third, ordinances and laws; fourth, clean-up week; and fifth, publicity. The meetings of each sub-committee are held regularly and plans and policies worked out to be presented at other prescribed meetings and the entire policy adopted then presented to the Board of Directors of the Chamber for approval, and the work of investigation and correction in all lines indicated, proceeded with in accord with the adopted plans. The work expected to be accomplished by each of the sub-committees is as following:

WATER SUPPLY.

1. Assist in furthering plans already under consideration, or initiating new plans, looking toward a complete survey of the water supply and distributing system, with preparation of adequate maps thereof.

2. Suggest changest in the existing layout, as well as such extensions as may be needed to take care of the logical growth of the city in future.

3. Prepare detailed estimates of cost of such changes, including necessary alterations and additions to the pumping plant, together with recommendations both as to additions and costs of same as regards the filtration system.

FIRE STATIONS AND EQUIPMENT.

1. Make a thorough inspection of all fire stations and equipment as to quantity on hand as compared with quantity needed; conditions of equipment and care of same and condition of stations and possible need for new stations.

2. Recommend as to necessary additions in equipment, stations, personnel, facilities for repair, needs for standarization if any are found, and any other matters the committee may deem in need of attention, at the same time submitting detailed estimates of cost of same from current as well as capital funds.

3. Inquire into the problem of complete motorization of department.

ORDINANCES AND LAWS.

1. An analysis of all laws, municipal and state, in regard to fire prevention and protection, particularly the building code.

2. Suggest such changes in the building code as may be found necessary, by recommending and drawing up ordinances which will remedy situations found to be in need of attention.

3. Ascertain to what extent violations of the building code have occurred in the past, by means of actual surveys of representative sections of the city.

4. Encourage and urge the enforcement of all proper legislation.

5. Study the question of a municipal conduit system.

CLEAN-UP WEEK.

1. To initiate, organize and secure the observance of a Clean-up Week or Campaign during 1920.

2. To inquire into the question as to what ordinances will be necessary in order to make the campaign effective, and recommend the passage of same, in order that proper legal power may be utilized in the work.

3. To institut a campaign of educational propaganda which will best awaken the community to the importance of the movement and enlist its support.

4. To co-operate with the Publicity Sub-Committee in placing the Clean-up movement and Fire Prevention before the public, through the various churches, schools, civic bodies and other agencies whose co-operation can be secured.

PUBLICITY.

1. Generate and stir up enthusiasm on the general subject of Fire Prevention.

2. Educate the public to the importance of preventing fires rather than having to fight them.

3. Determine upon methods of bringing the findings of the various sub-committees before the public.

4. Initiate and plan the publicity so essential to a successful Clean-up Week.

5. Publish the results of the committee's work in report form.

This Chamber of Commerce and the sub-committees, recognizing the necessity for the conservation of resources, are attempting in every legitimate way to awaken the citizens to the importance of fire prevention.

What can be done elsewhere can be done in Pennsylvania and it is time to "BE UP AND DOING."—Extracts from Fire Protection.

FIRE DRILLS AS LIFE SAVERS.

There can be no question as to saving of many lives, owing to the lessons taught in self-reliance and ability to act without confusion and excitement in the event of an unexpected calamity, particularly applicable to the deadly ravage by fire in school houses, hospitals,

mills and factories, and the results attained have been satisfactory in every case where it has been necessary to put into effect the lessons advocated by this Bureau and carried out. Records show that in every case where either scholars or employees have been thoroughly trained in fire drills that the loss of life has been nil, and it is hoped that more attention will be given to this important means for saving life, especially among the school children who are so dependent on others.

Of the many reports received showing the efficiency that can be attained by training and how little there is to fear, or confusion result in time of danger, where intensive training prevails, we are pleased to quote the following in hope that others will profit by the example and adopt and carry out to success the training of the young in helping to care for themselves:

On January 16, 1920, a fire broke out in the fire tower of one of the largest orphanages in the eastern part of the State and fifty children were ushered from their beds on the burning floor to another section of the home without confusion or accident and about seventy-five children on other floors were aroused by attendants and marched in orderly fashion to safety on the main floor. The children obeying instructions, marched in drill formation they use in going to and from classrooms in a cool and orderly manner without disorder or panic, and so confident were they, owing to the training they received, that during the progress of extinguishing the fire by the firemen the children played games to pass away the time.

Such an example as this is worthy to be followed in every school, and can also be profitably followed by grown-ups who work in congested workshops, and it would be also an excellent plan to carry fire drills into the home.

On January 21, 1920, shortly before 11:00 A. M. a tongue of flames burst through the wall in the Principal's room on the first floor of the school building at Fourth and Elm Streets, Reading, the fire drill alarm was sounded and the 300 children were permitted, owing to weather conditions to put on coats and hats and, notwithstanding the delay, marched out of the eight rooms constituting the school, in an orderly manner without a semblance of fear or excitement in less than two minutes.

On January 27, 1920, at 11:45 A. M. fire was discovered in the cellar of the Logan Avenue school house in Tyrone, caused by an over-

heated furnace, and it was burning briskly, filling the building with smoke. Seven hundred and fifty pupils attended this school, and when the alarm was sounded, the pupils responded promptly, and marched out of the building without confusion in one minute and forty seconds.

The inestimable value of fire drills cannot be questioned, as emphatically demonstrated by the cases quoted and by many others of record.

Discipline and training will always win and in the interest of saving precious lives, should be carried out in the schools and institutions where children are confined.

CONSERVATION.

A moment's thought may be the means of the saving of a human life; the observance of one of the simple rules of safety may be the means of saving thousands of dollar's worth of property. Large fires and conflagrations have been averted by the simple rule of safety first. Are we conserving life and property to the best of our ability? Are we using every means we can as a means of protection against the ravage of fire? When asked to correct some fire hazard that is found to exist do you get angry and say that it never has caused a fire and don't believe that it ever will? But the fire comes along just the same and wipes out of existence valuable property and possibly more of life's necessities than could be conserved in a year's time.

Conservation is the very essence of fire prevention, and to extinguish a fire is a splendid act, but to prevent one is greater. If this Bureau places an order for the correction of a fire hazard do not complain, or think that the Bureau is unjust but remember that the order is made for your own good, and the good of the State, and in the interest of conservation.

The inspectors of the Bureau have made a study of conditions and come in daily contact with fire hazards and when they discover a defect, it is their duty to report it and order its correction by the occupant of factory, mill, store or home, and you may be sure that such order is absolutely in the interest of conservation and the prevention of fires.

MONTHLY BULLETIN

"MAKE PENNSYLVANIA FIREPROOF"

Department

OF

STATE POLICE

OF

Pennsylvania

BUREAU OF FIRE PROTECTION

OFFICE—ROOM 166
Capitol Building, Harrisburg, Pa.
HOWARD E. BUTZ, Chief of Bureau

VOL. VII MARCH, 1920 No. 48

KEEP 'EM APART.

Sparks and gasoline.

Heat pipes and wood.

Caps and dynamite.

Electric wires and metal objects.

Children and matches.

Electric bulbs and combs or hair pins.

Careless people and inflammable substances.

Gas jets and lace curtains.

Coal oil lamps and shaky tables.

Oily waste and cigarette stubs.

Coal ashes and wooden containers.

Rubbish piles and careless smokers.

Celluloid combs and hot hair curlers.

Overloaded wires and bad connections.

Coins or metal connectors and safety plugs.

Vol. VII No. 48

Monthly Bulletin

Department

OF

STATE POLICE

OF

Pennsylvania

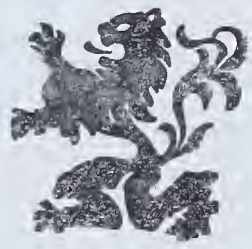
BUREAU OF FIRE PROTECTION

HOWARD E. BUTZ, Chief of the Bureau

BULLETIN OF INFORMATION FOR THE PUBLIC

MARCH, 1920

HARRISBURG, PA.:
1920.



REGULATIONS GOVERNING THE HAVING, USING, STORAGE, SALE AND KEEPING OF GASOLINE, NAPHTHA, KEROSENE, AND OTHER VOLATILE, INFLAMMABLE OR COMBUSTIBLE LIQUIDS AND SUBSTANCES OF LIKE CHARACTER WITHIN THE COMMONWEALTH OF PENNSYLVANIA.

ADOPTED UNDER AUTHORITY OF THE ACT OF ASSMBLY OF JULY 1, 1919, RELATING TO FIRES AND FIRE PREVENTION.

Section 1. No person, firm, association or corporation shall have, keep on sale, or store in any place or building, within the Commonwealth of Pennsylvania, any gasoline, naphtha, kerosene, or any other volatile inflammable liquid or product, under whatsoever name designated, unless the following regulations are complied with.

Section 2. The term volatile inflammable liquids as it is used in these regulations shall mean and include gasoline, naphtha, kerosene, products of petroleum, and any other fluid substance or material which will evaporate a gas that will flash at a temperature of less than 100 degrees Fahrenheit.

Section 3. No person, firm, association or corporation shall erect or install any tank for the storage, handling or use of volatile inflammable liquids, in excess of 500 gallons, without first obtaining approval from the Bureau of Fire Protection, Department of State Police.

Section 4. Application for installation of underground tank in excess of 500 gallons must be accompanied by plans and specifications describing its location and purpose, the construction, thickness and weight of material, the method of installation, and position of tank with respect to adjoining property.

Section 5. No person, firm, association or corporation shall erect any above ground tanks for the storage or use of gasoline, naphtha, kerosene, or any other volatile inflammable liquids, without first obtaining approval from the Bureau of Fire Protection, Department of State Police. In addition to specifications and plans required in Section 4, application for permit must set forth the reason for above ground installation.

Section 6. The handling or storing of any volatile inflammable liquid within dangerous proximity to open flame or fire is expressly prohibited. Where such liquids are kept, used or handled, dry sand with hand scoops, chemical fire extinguishers, or other fire retardents, shall be provided in such quantities as may be directed by the Bureau of Fire Protection, Department of State Police.

Section 7. All tanks for the storage of gasoline, naphtha, kerosene, or any other volatile inflammable liquids, shall be placed outside of buildings and underground, except as otherwise provided, not less than three feet below the surface, entirely surrounded by earth well tamped in place, with a masonry foundation or base of concrete, brick or stone, at least six inches thick, with a drain through same. If impracticable to locate tanks outside of buildings they may be buried three feet below level of basement or cellar floor, imbedded in earth well tamped and covered by at least three feet of earth, with a base or foundation of concrete at least six inches thick. The limit of storage permitted shall depend upon the location of tanks with respect to the building to be supplied and adjacent buildings, as follows:

(a) Unlimited capacity if lower than the floor, basement, cellar or pit of any building within a radius of fifty feet.

(b) 20,000 gallons total capacity if lower than the floor, basement, cellar or pit of any building within thirty feet radius.

(c) 5,000 gallons total capacity if lower than the floor, basement, cellar or pit of any building within twenty feet radius.

(d) 1,500 gallons total capacity if lower than the floor, basement, cellar of pit of any building within ten feet radius.

(e) 500 gallons if not lower than every floor, basement, cellar or pit of any building within ten feet, in which case it must be entirely encased in six inches of concrete.

Section 8. Tanks may be placed in non-cumbustible buildings or vaults. Where tanks are placed in a non-combustible building earth must be placed on both sides and rear end, and be brought to top of tank, and the earth well tamped. Where tank is placed in a vault the tank must be covered with earth, well tamped to make it solid. Non-combustible buildings or vaults must be constructed with masonry walls, floors, and ceilings of eight inches of concrete, brick or stone, with proper ventilation provided. No combustible material shall be used.

Section 9. Where impracticable to place tanks underground or in non-combustible building or vault, they may be placed outside above ground under the following direction, provided that the above ground tanks shall be restricted in fire zones, and shall not constitute a hazard where erected:

CAPACITY OF OUTSIDE ABOVE GROUND STORAGE TANKS.

Capacity of Tank, Gallons.	Minimum Distance of Tanks.	
	To line of adjoining property which may be built upon.	To any other Tank.
300 or less,	5 feet	2 feet
500 or less,	10 feet	2 feet
1,000 or less,	20 feet	2 feet
8,000 or less,	25 feet	2 feet
12,000 or less,	30 feet	2 feet
18,000 or less,	40 feet	3 feet
24,000 or less,	50 feet	3 feet
30,000 or less,	60 feet	3 feet
48,000 or less,	75 feet	3 feet
75,000 or less,	85 feet	3 feet
100,000 or less,	100 feet	15 feet
150,000 or less,	150 feet	25 feet
250,000 or less,	250 feet	35 feet
500,000 or less,	300 feet	50 feet
1,000,000 or less,	350 feet	75 feet
Unlimited,	400 feet	200 feet

Section 10. Each above ground tank over 500 gallons in capacity must have all manholes, hand holes, vent openings and other openings, which may contain inflammable vapor, provided with 20x20 mesh, brass wire screen or its equivalent, so attached as to completely cover the openings and be protected against clogging. A

safety valve must be provided, or manhole covers must be kept closed by weight only, and not firmly attached. The screen on such opening may be made removable, but must be kept normally firmly attached.

Section 11. No person, firm, association or corporation, keeping gasoline, naphtha, kerosene, or any other volatile inflammable liquids, for sale or use, shall store or permit to be stored within the Commonwealth of Pennsylvania, any gasoline, naphtha, kerosene, or any other volatile inflammable liquids, within a building used for any other purpose, except when contained in safety containers or vapor proof receptacles. When safety containers or receptacles are used not more than 5 gallons shall be kept in any building, except as otherwise provided. This section is not to be construed to include kerosene having a fire test not lower than 110 degrees, in which case the same may be stored in safety containers or tanks, with pump attachment, of an approved type.

Section 12. All cans, drums, barrels, tanks, or other receptables holding or containing not over sixty gallons, in which gasoline, naphtha, kerosene, or any other volatile inflammable liquid is stored or handled, may be placed above ground if stored in a separate building or shelter, properly protected, well ventilated at or near floor, not exceeding one story in height, which shall be used exclusively for such storage, and be located from other buildings at a distance not less than the aggregate amount of volatile inflammable liquid therein provides in the table in Section 9; provided, however, that nothing in this section shall be construed as prohibiting a manufacturer bringing into his factory in air tight receptacles, sufficient material for his daily operative needs.

Section 13. Tanks used for the storage or handling of volatile inflammable liquids shall be made of galvanized steel, basic open hearth steel or wrought iron of a minimum gauge U. S. Standard, depending upon the capacity as given in the following table:

Capacity (Gallons).	Minimum Thickness of Material.
1 to 350,	16 gauge—equivalent to 1/16″
351 to 560,	14 gauge—equivalent to 5/64″
561 to 1,100,	12 gauge—equivalent to 7/64″
1,101 to 4,000,	7 gauge—equivalent to 3/16″
4,001 to 10,500,	1/4″
10,501 to 20,000,	5/16″
20,001 to 30,000,	3/8″

Section 14. Tanks of greater capacity than given above shall be of material of sufficient thickness to safely hold the contents, and proportionately heavier.

Section 15. Tanks shall be riveted, welded or brazed, and shall be covered with not less than two coats of asphaltum or other non-rusting paint or coating.

Section 16. Tanks above ground must be set upon a firm foundation or supports of non-combustible material, and shall be electrically grounded.

Section 17. All underground storage system in which the tank may contain inflammable gases, shall have at least a 1-inch vent pipe, run from top of tank to a point outside of the building, but which shall end at least 12 feet above level of source of supply and in a location remote from fire escapes, and never nearer than three feet, measured horizontally and vertically, from any window or other opening; the tank vent pipe shall terminate in a goose-neck or other approved vent protected in the outer end by a 30x30 mesh or equivalent brass wire screen, or a combined vent and filling pipe so equipped and located as to vent the tank at all times, even during filling operation, may be used. The vent pipes from two or more tanks may be connected to one upright, provided they be connected at a point at least one foot above level of source of supply.

Section 18. The end of filling pipe for underground storage tanks shall be carried to an approved location outside of any building, but not within five feet of any entrance door, or cellar opening, and shall be set in an approved metal box with cover which shall be kept securely locked except during filling operations; this filling pipe shall be closed by an approved cap or plug. A 30 x 30 mesh or equivalent brass screen strainer shall be placed in the supply end of filling pipe.

Section 19. Inflammable liquids shall be drawn from tanks by approved pumps with controlling apparatus and piping so arranged as to allow control of the amount of discharge and prevent leakage and discharge inside the building by any derangement of the system. When inside a building the pump or other drawing off device shall be located near an entrance or other well ventilated place. No discharge system shall have outlet inside building where a hazard may be introduced thereby; and the filling and drawing off of volatile inflammable liquids, where light is required, must be by incandescent electric light, or a protected light of approved pattern.

Section 20. All pipes used in systems for inflammable liquids shall be of standard full weight brass, galvanized iron or steel, with suitable brass or galvanized malleable iron or steel fittings. Litharge and glycerin, shellac or other suitable material shall be used on pipe joints. Outside piping must be protected against any mechanical injury, and inside piping must be rigidly supported. All pipes shall pitch toward tanks without any traps or pockets, and shall enter at top of tank.

Section 21. Gasoline or other volatile inflammable liquids shall not be kept in any garage or buildings used as such, except in reservoirs of automobiles or when stored or handled in safety containers of metal construction or in portable filling tanks. Portable steel or iron tanks shall not exceed a capacity of sixty gallons, and must be constructed of at least 3-16 inch tank steel or other approved metal and construction. Portable tanks shall be supported on wheels equipped with rubber, leather, fibre or other approved tires. The tank must be provided with an approved all metal pump or other approved device with hose attachment and hose not to exceed ten feet in length. The pump must be equipped with approved ground shut off cock where hose is atttached to pump, also with approved ground key shut off cock at end of hose. Pump must be equipped with a lock and must be locked when not in use.

Section 22. No gasoline, benzine, or naphtha, shall be used for washing automobiles or parts of automobiles; nor shall any volatile inflammable liquid be used in any manner that will allow the same to run upon the floor or to fall or pass into the drainage system.

Section 23. These regulations shall not be construed to apply to tanks of manufacturers at their refineries or at their various distributing stations, excepting as herein set forth.

Section 24. No smoking shall be permitted in any room in which volatile inflammable liquids are kept, stored, or handled, and notice to that effect shall be conspicuously posted.

Section 25. An order of removal or remedy will be immediately made against any person, firm, association or corporation violating or failing or refusing to comply with any provision of the foregoing regulations. Failure to comply with any such order is punishable with a penalty of $25 for each day's neglect.

Section 26. The Act of June 10, 1911, P. L. 869, provides that no refined petroleum oil for illuminating purposes shall be manufactured, sold or offered for sale by any person, firm or corporation within the Commonwealth of Pennsylvania, having a fire test lower than one hundred and ten (110) degrees, Tagliabue open cup test, etc., and any person or persons, firm or corporation or any officer or officers thereof, violating the provisions of this act shall upon conviction be sentenced to pay a fine not exceeding five hundred (500) dollars, or undergo an imprisonment not exceeding six (6) months, at the discretion of the court.

NUMBER OF FIRES REPORTED SHOWING VALUE OF PROPERTY LOSS AND INSURANCE.

During the Month of October, 1919.

(Exclusive of Philadelphia and Pittsburgh.)

Counties.	Number of Fires.	Estimated Value.	Estimated Loss.	Amount of Insurance.
Adams,	2	$8,500	$8,005	$4,470
Allegheny,	30	295,400	21,395	295,400
Armstrong,	5	31,200	23,363	11,150
Beaver,	12	16,734	2,500	12,400
Bedford,	6	7,219	3,465	3,800
Berks,	11	29,300	10,615	22,150
Blair,	15	16,500	15,000	14,500
Bradford,	12	14,800	13,500	12,500
Bucks,	7	32,243	5,000	30,000
Butler,	3	5,000	4,700	3,500
Cambria,	14	25,575	21,000	20,000
Cameron,	2	7,600	5,674	5,500
Carbon,	2	6,200	4,495	3,500
Centre,	6	14,700	9,500	12,000
Chester,	11	54,435	4,650	11,500
Clarion,	4	2,955	200	600
Clearfield,	5	28,395	7,610	25,000
Clinton,	2	6,500	500	3,550
Columbia,	6	7,300	5,500	4,000
Crawford,	17	54,323	39,500	27,500
Cumberland,	15	15,000	4,000	9,700
Dauphin,	20	75,065	13,965	70,000
Delaware,	8	20,500	9,006	38,000
Elk,	1	1,500	450	1,200
Erie,	35	301,940	20,000	300,000
Fayette,	12	29,800	25,950	23,500
Franklin,	3	7,000	5,000	4,000
Fulton,	2	450	100	450
Greene,	1	1,100	600	800
Huntingdon,	7	45,959	10,000	16,550
Indiana,	6	25,850	12,154	20,450
Jefferson,	2	2,275	1,465	500
Lackawanna,	38	743,212	12,000	654,830
Lancaster,	12	18,696	3,500	18,750
Lawrence,	11	146,235	650	129,780
Lebanon,	3	3,000	200	2,000
Lehigh,	12	69,650	11,906	7,250
Luzerne,	42	150,340	14,030	95,025
Lycoming,	11	45,133	5,625	27,534
McKean,	12	47,600	8,602	33,810
Mercer,	10	146,235	12,000	128,700
Mifflin,	4	15,000	12,005	9,500
Monroe,	2	1,200	145	800
Montgomery,	8	20,240	5,063	19,300
Montour,	4	12,500	8,500	3,000
Northampton,	12	87,875	6,490	42,900
Northumberland,	2	8,400	2,018	4,500
Perry,	3	7,500	5,063	3,950
Pike,	1	600	200	300
Potter,	1	7,000	3,910	1,500
Schuylkill,	17	225,650	19,568	85,450
Snyder,	2	3,000	1,645	2,000
Somerset,	5	44,785	22,282	14,500
Sullivan,	2	5,400	4,015	3,000
Susquehanna,	6	11,124	11,874	6,175
Tioga,	3	4,465	1,075	2,700
Venango,	4	4,337	2,206	1,950
Warren,	2	4,568	10,618	33,900
Washington,	20	45,655	22,357	28,065

NUMBER OF FIRES REPORTED SHOWING VALUE OF PROPERTY LOSS AND INSURANCE—Concluded.

Counties.	Number of Fires.	Estimated Value.	Estimated Loss.	Amount of Insurance.
Wayne,	3	2,390	1,500	2,200
Westmoreland,	15	646,966	345,697	200,500
Wyoming,	6	5,000	3,500	2,550
York,	14	45,612	35,469	26,275
Total,	571	$3,770,626	$902,575	$2,600,864

CLASS OF STRUCTURES DESTROYED OR DAMAGED BY FIRE.

During the Month of October, 1919.

(Exclusive of Philadelphia and Pittsburgh.)

Structures.	Number of Fires.	Loss.
Academies, boarding schools, colleges, universities,	1	$5,000
Apartment houses, boarding houses, dwellings,	156	30,034
Automobiles,	10	2,062
Bank and office buildings,	5	1,292
Barns and stables (city and town),	23	38,019
Bridges,	1	79
Chapels and churches,	5	774
Club, lodge and society rooms,	1	5
Farm crops in fields,	4	1,256
Farm Property:		
Barns and stables,	124	222,809
Dwellings,	120	64,488
Outbuildings,	24	9,869
Fire department houses,	2	8,141
Garages, private,	4	1,480
Garages, public,	5	1,343
Hospitals and sanatariums,	1	125
Hotels,	2	12
Livery and sales stables,	3	338
Manufacturing and Industrial Establishments:		
Bottling works,	3	800
Breweries,	2	800
Brick and clay works,	1	15
Carriages and wagons,	1	25
Feed and flour,	2	12,000
Furniture,	1	10,000
Glass,	1	4,000
Laundries,	1	750
Lumber yards,	2	19,256
Metal, miscellaneous,	4	14,483
Miscellaneous,	5	3,998
Oil refineries and well works,	4	5,619
Paper and pulp,	1	25,000
Planing mills,	1	10,000
Rubber goods,	1	3,112
Sawmills,	1	2,300
Textile,	1	3,000
Mercantile Establishments:		
Flour, feed and hay,	2	1,100
Groceries,	1	110
Hardware,	2	47
Miscellaneous, with dwelling occupancy,	9	16,742
Restaurants,	2	278,893
Tailoring,	1	10
Tobacco and cigars,	1	135
Miscellaneous,	10	66,468
Miscellaneous,	4	179
Outbuildings (city and town),	6	199
Schools, public,	3	3,596
Tanks (inflammable oils and liquids),	1	725
Warehouses and Storage:		
General storage,	3	15,723
Ice,	3	16,364
Total,	571	$902,575

Dilapidated buildings unworthy of repairs. Material valuable and salable. Ordered torn down and removed from premises. Many owners could realize considerable from building material in these days of high costs. Profit by the suggestion and remove a fire menace.

Dilapidated buildings that could be made useful by repairs; neglect is a costly proposition.

Dilapidated building condemned in course of demolition. There are many more through the State that should be dealt with in the same way. Get busy owners.

Ruins of stores, moving picture theatre, and office building, supposed cause—carelessness, entailing a loss of $41,000. Fires, like snakes in the grass, await the unprepared. Be careful.

MATERIALS USED IN CONSTRUCTION OF BUILDINGS DESTROYED OR DAMAGED BY FIRE.

During the Month of October, 1919.

(Exclusive of Philadelphia and Pittsburgh.)

Material.	Number of Fires.	Loss.
Brick,	130	$338,932
Brick and stone,	3	132
Fireproof,	3	26
Stone,	6	13,372
Wood and frame,	369	415,997
Wood, with brick or stone,	20	76,943
Unclassified,	36	3,062
Iron covered (galvanized),	2	25,385
Not reported,	2	28,726
Total,	571	$902,575

CAUSE OF FIRE AND LOSS INCURRED.

During the Month of October, 1919.

(Exclusive of Philadelphia and Pittsburgh.)

Cause.	Number of Fires.	Loss.
Adjoining fires,	34	$93,986
Ashes (hot), careless disposal,	1	235
Backfire,	4	9,713
Candle carelessness,	3	182
Chimney, flues, stacks (defective or overheated),	73	23,945
Cigars and cigarettes (lighted), carelessly discarded,	13	841
Clothing and curtains exposed to contact with stove, heating appliances and unprotected lights,	12	256,360
Coals (hot), falling from stove, furnace or fireplace,	1	99
Cooking appliances (electric, gas, alcohol), carelessly used,	3	2,526
Electric, flat and gas iron carelessness,	6	188
Electric wiring, defective,	15	24,801
Explosions:		
Acetylene,	2	5,370
Alcohol, gas and oil lamps,	5	1,676
Alcohol, gas and oil stoves and heaters,	14	5,352
Charcoal dust, gas and coal gas,	15	31,342
Chemicals and acids,	18	62,644
Coal oil and kerosene, starting fires and filling lamps and lanterns,	1	15
Gas leak,	8	3,686
Gasoline, benzine, naphtha, careless use and cleaning with exposed to fire or unprotected lights,	9	2,624
Gasoline, pipe or storage leak,	2	2,510
Oils (inflammable), ignition,	1	42,000
Water back,	3	139
Flat irons and bricks (heated), used for warming purpose in bed,	1	18
Furnaces, heaters, stoves and their pipes, defective or overheated,	7	1,518
Fumigation,	1	10
Grease ignition on stove,	1	1,012
Incendiary,	5	5,721
Lamps and lanterns, overturned,	2	731
Limekiln operation,	8	100
Matches, careless use and keeping,	5	110
Matches, children,	14	20,546
Matches (lighted), carelessly discarded,	37	225
Metals (hot), asphalt, tar, pitch, wax, metal, etc., ignition of,	1	4,946
Miscellaneous,	9	4,767
Smoking, carelessness,	3	223
Smoking in bed,	1	110
Sparks:		
Chimneys' flues, stacks, cupola,	59	4,845
Locomotive,	10	1,564
Motors,	2	145
Rubbish and brush burning,	5	17,794
Spontaneous combustion,	10	47,857
Torch carelessness,	6	4,177
Undetermined,	139	215,902
Woodwork and furniture exposed to contact with stove, heating appliances and unprotected lights,	2	20
Total,	571	$902,575

PATRIOTISM OF PEACE.

The patriotism of peace is more difficult than the patriotism of war. Time after time during the period of the war, patriotic appeals were directed to the farmer, urging him to more active efforts in the producing of larger crops, care in the harvesting and disposition of same; and in the conservation of all resources. He was rightfully told that dependant upon him, and him alone, was the securing of the necessities for maintenance, not only of those gone forward to uphold democracy, but that the world as well looked to him for assistance and support. Right well did he fulfill his task in producing and harvesting; but, in the conservation of products, carelessness was allowed to intervene, and thousands of dollars worth of resources that should have gone to help feed the needy was sacrificed on the alter of the fire fiend. Such conditions should not be allowed to continue. The remedy is simple and available to all, consisting of the substitution of carefulness for carelessness, and the frequent inspection of buildings and correction of defects in construction. Don't continue to invite ruin and discouragement by failing to heed the warning against neglect and carelessness, to the injury of yourselves and neighbors, and thereby be classed among the shiftless members of the community.

Mr. Farmer, make up your mind that you will protect your buildings against fire from any cause. The first requisite is cleanliness; the second is frequent inspection and the remedying or removal of conditions that might cause fire; the third, protection by lightning rods.

Why not at once profit by the experience of others and take the precaution against even the possibility of fire, and before the active work of spring commences, put all buildings in first-class condition, cleaning away all material that might in any way invite fires; see that old machinery, old wagons or other useless articles are removed; see that no oily rags or waste used in greasing wagons or machinery is left lying around inviting spontaneous combustion.

Protect yourself against possibilities; don't think that because you never had a visitation from the dread fiery fiend that you never

will. No one can tell, but you can and should use every precaution and lessen the chances. While it will take a little time, it is time well spent. It means the saving of many dollars and freedom from worry.

Fires are practically from three causes,—Lightning, Carelessness and Design, nearly all of which are preventable. Of the first, statistics gathered from Insurance Companies and Agricultural Departments of several States, shows that the loss on buildings rodded, compared with unrodded buildings to be practically nil, proving conclusively that lightning rods do afford protection. Take advantage of this known protection against an element that is causing the loss of thousands of dollars annually, besides destroying resources that cannot be replaced. Of the second cause, 70 per cent. of all fires are directly attributable to carelessness. Eliminate this carelessness and you eliminate fire. Eliminate fire and seure a reduction in insurance rates. Prevent it by making repairs to building. Tear down and remove dilapidated barns and other structures which are usually used for the storage of worthless material which should be disposed of, rather than kept on the premises.

Remove and destroy all fire breeding material.

Use care in cutting and burning weeds.

Keep buildings and surroundings clean and you will materially reduce the fire risk.

Never go into barns or other buildings with an open light.

Burn all rubbish, but don't do it near buildings.

Keep matches in a metallic receptacle and out of reach of children.

Keep gasoline engines or gasoline in a separate building, built of galvanized iron, stone or concrete; never in the barn.

Keep at least six (6) buckets of water in the passageway of barn; see that they are always kept filled.

Keep fire extinguishers in house, barn and on automobile.

Place ladder of sufficient length on side of barn for emergency and have foot holds on roof of barn and house.

Have frequent examinations made of electric wires in house and barn.

Build a cistern near barn with a first-class force pump and attach sufficient hose to reach to buildings.

See that chimneys and flues are safely constructed and kept clean.

See that stove pipes are properly put up and that the stove is placed away from wall.

If you have no fire fighting force near you, or cannot depend on nearby towns, form a company among your neighbors and don't hesitate to call them when service is needed, or to promptly respond when called upon.

Fire makes a man struggle harder for a living by compelling him to spend for his neighbor's waste.

SPONTANEOUS IGNITION OF DAIRY FEEDS.

During the past year the increase in the number of fires in dairy feeds due to spontaneous ignition and the considerable losses incident thereto, have caused the committee on Fire Prevention and Engineering Standards of the National Board of Fire Underwriters to make a thorough investigation of this hazard, which has just been completed.

That spontaneous ignition in dairy feeds is a real factor to be dealt with and guarded against is evidenced by several serious fires during the past year.

Analyses of numerous dairy feeds by the Michigan Agricultural College show these foods variously to contain cottonseed meal, linseed meal, gluten feed, distillers' grains, malt sprouts and wheat middlings; others simply contain vinegar grains, while some also include wheat bran, salt, oats, barley, corn and hominy feed, oat hulls and cracked corn. Alfalfa feeds consist of ground alfalfa hay mixed with cane or beet molasses, either with or without the addition of other feed products. These latter are not subject to spontaneous ignition when in the dry state.

Linseed Meal Most Dangerous.

While linseed and cottonseed cake meals contain only from 5 to 7% of oil or fat and are never present in proportions greater than and rarely as large as 25%, these two oils, namely linseed and cottonseed, rank respectively first and sixth of the fifteen main vegetable fats with respect to the hazard of spontaneous ignition.

The processes and conditions leading to spontaneous ignition or heating, taken in the widest sense, are:

1—Moisture.
2—Bacterial activity.
3—Germination.
4—Storage in large heaps.

The foregoing processes are similar in the case of fodders. The period of development in cases of chronic ignition may extend over two or three months; in many cases a good deal depends on the bulk of the stored mass. Where this amount to some hundreds of tons, spontaneous ignition may sometimes take two or three months before becoming apparent externally. The foregoing substances are dangerous when piled in large heaps, or tightly packed in bins while still in a fresh state, and if they are allowed to get wet after being dried and then stored for some time in such condition. In either case an opportunity is afforded for the occurrence of far reaching chemical changes within the mass, the latter then becoming decayed, heated, charred and finally falling a prey to combustion.

Dr. Van Schwartz, an eminent industrial chemist, states that it should be borne in mind that even small amounts of agricultural products, gathered or stored in a damp state, or wetted, may suffice to set up decay or spontaneous ignition in large heaps of the same products in a dry state. Thus, a bag or damp grain, a bundle of wet hap, a heap of sprouting corn may cause damage to feeds or grains stored in connection therewith.

An additional hazard to the heaps is the presence of upright wooden pillars or props of a resinous character, or painted over with spirit or oil paints. Timbers of this kind are very sensitive to the action of heat, and form natural flues for heat generated in the mass, since materials never lie so closely together near these as they would otherwise; furthermore, the flow is accompanied by moisture, which in collecting around the timbers, may moisten surrounding materials sufficiently to instigate decay and eventual spontaneous ignition. The danger thus incurred increases in proportion as the usual practice is followed of piling up the heaps thickest against the timbers.

Instances have occurred where wooden pillars, standing in the midst of heaps of wet, spoilt grain, bran or hay, have themselves been charred before the surrounding materials attained the stage of spontaneous ignition. Hence such timbers should be covered with non-

combustible material and storage rooms should be visited at frequent intervals and kept well ventilated; heaps should be frequently turned over to insure proper surface cooling. Suspicious odors will indicate high temperature, especially a smell like that of fresh bread. All corners and pillars should be laid bare and heaps kept separated and as consistent with storage facilities. To keep such storages locked for considerable periods without inspection is dangerous and especially reprehensible where owners have knowledge of the hazard entailed.

Although not pertaining to the hazard herein described, it may not be amiss to touch upon another hazard incident to the storage of a dairy feed constituent, namely, brewers' grains. These grains, as the process of decay sets in, at first liberate nitrogen and carbon dioxide, but later methane and hydrogen. These gaseous mixtures are inflammable and explosive, hence it is very dangerous to enter or illuminate the pits or bins with open lights. The storage of seeds is accompanied by the same hazard.

In conclusion, the following provisions to reduce to a minimum the hazard of spontaneous ignition are recommended:

On dairy farms where feeds are handled in carload lots, a separate detached building should be provided for storage. Construction should be such as to prevent rain or surface water from entering; proper ventilation should be provided. It is suggested that the latter be accomplished as follows: A roof ventilator should be installed in the center of the roof, with vanes inclined at such an angle as to prevent rain from entering; at five-foot intervals there should be installed in building walls, vents six inches by twelve inches in dimension, located at points approximately six inches below the cave line; vent vanes should be inclined at such an angle as to prevent rain from entering. The building should be elevated in order to provide a circulation of air beneath the storage.

Bags should be arranged in tiers separated by aisles or spaces at least two feet in width; tiers should not exceed six feet in width and ten feet in height. It is recommended that in building up tiers, bags be laid lengthwise the width of the tier; this will result in a portion of every bag in the tier being exposed to view. Such storages should be visited daily.

Farmers handling small or moderate quantities of dairy feeds should observe the foregoing provisions for arrangements of tires and spacing. Only dry, well ventilated sections of barns or other outbuildings should be used for storage.

Before storing feed, bags should be inspected in order that any in a moist state may be segregated. Bins used for the storage of loose feed should be lined with metal or other incombustible material.—Safeguarding America against Fire.

DRY-POWDER TUBE.

Although dry-powder fire extinguishers are sold to a gullible public in increasing numbers, they are all, without exception, practically worthless. Tubes costing three dollars each contain materials having an average value of eleven cents. Chemical analysis of thirty-one tubes of various makes shows the contents to consist of approximately 60 percent common baking soda, 26 percent fine sand, 8 percent pulverized chalk and 4 percent coloring matter, chiefly iron oxide. The inefficiency of dry powder extinguishers was made the subject of searching investigation by a special committee appointed by the British Home Office in March, 1916. The report, which was issued as a White Paper, contained the following statement: "The use of dry-powder fire extinguishers is to be deprecated as not only giving a misleading sense of security, but being practically useless for extinguishing or controlling fires."

Of an entirely different character are the small one-quart chemical extinguishers sold under different proprietary names, but all containing carbon tetrachloride as the extinguishing fluid. These have the great advantage of being easily handled by women and children. When subjected to heat, carbon tetrachloride generates a heavy, noninflammable gas that will extinguish fires under circumstances where water would be useless. The efficiency of all auxiliary fire equipment is, however, dependent upon several contingencies, such as accessibility for prompt use, presence of mind of the operator and the

proper working order of the appliances. In the majority of cases it is extremely doubtful whether the untrained occupants of buildings have sufficient self-possession at the time of a fire to make the best use of such appliances, even when they are immediately available.—"Fire Waste in Canada."

DIDN'T THINK.

The boy stood on the back yard fence
  Whence all but him had fled.
The flames that lit his father's barn
  Shown high up o'er the shed.
One bunch of crackers in his hand
  Another in his hat,
In wild suprise he loudly cried,
  "I didn't think of that."

And so it is with most of us. "We didn't think of that" until after it is too late. The fire started, house burned, nothing saved, the accumulation of a lifetime destroyed, and nothing left but to start over again. Didn't think. History repeats itself. Will we think next time?

RESPONSIBILITY OF THE HEAD OF THE HOUSEHOLD.

"You are responsible for the safety of those dependent upon you, or those who find shelter under your roof.

"You should know the hazards that menace them.

"This is a great responsibility and it rests upon YOUR shoulders.

"If fire should break out in your home it might costs the lives of some of your loved ones or someone sheltered by you.

"Study this matter of fire protection. Consult with those who are qualified to advise you.

"Don't lay yourself open to the reproach, 'you were negligent.'"

"Carelessness and negligence are a standing invitation to fire to visit your home.

"Be sure that you have done your part in protecting your home from fire."

SUGGESTIONS.

The Bureau of Fire Protection, Department of State Police, welcomes suggestions for the betterment of the monthly bulletin, and will appreciate receiving articles pertaining to better methods for combatting fire waste, and for the conservation of the resources of the State.

MONTHLY BULLETIN

"MAKE PENNSYLVANIA FIREPROOF"

Department

OF

STATE POLICE

OF

Pennsylvania

BUREAU OF FIRE PROTECTION

OFFICE—ROOM 166
Capitol Building, Harrisburg, Pa.
HOWARD E. BUTZ, Chief of Bureau

VOL. VII APRIL, 1927 No. 49

HELP! FIRE!

Are there any more terrifying words in any language than "Help! Fire!" The cry has come ringing down the ages since the beginning of the world, and even in these days of extraordinary progress it is still heard.

We have modern automobile fire equipment, the best trained firemen in the world, fire escapes, fire extinguishers, fire buckets and almost every safety device known, and yet hundreds of lives and millions of dollars' worth of property are destroyed each year. Property may be replaced, but life, the mystery of the world, never. Some dear one has gone forever, and all the money, all the sympathy, and all the tears cannot bring them back or ever efface from the mind the terrible thought of that agonizing death.

There are few who have not at some time heard, with fear in their hearts, the awful cry of "fire;" or when reading a daily newspaper, see the account of a fire and noting the loss of life, hastily scan the list in fear and trembling that some friend may have been among the victims.

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Department

OF

STATE POLICE

OF

Pennsylvania

BUREAU OF FIRE PROTECTION

HOWARD E. BUTZ, Chief of the Bureau

BULLETIN OF INFORMATION FOR THE PUBLIC

APRIL, 1920

HARRISBURG, PA.:
1920.

LESSONS IN FIRE FIGHTING

BY

FRANK HOCHREITER,

Chief of the Bureau of Fire, Wilkes-Barre, Pa., and Assistant to the Bureau of Fire Protection of Pennsylvania.

Fire is useful, and one of the most essential of the elements in the sustaining of life and the maintenance of the industrial and commercial welfare of the Nation. At the same time, when used without care it becomes a dangerous and destructive agency.

It cannot be dispensed with, but when carelessly handled it becomes an agent of devastation, and it is then that the call goes forth to the firemen to fight for the preservation of life and property.

Among firemen there are a number of old sayings which have emanated from experience and are applicable in directing the daily routine of a fireman's life, when called to duty, and if remembered will have the effect of saving precious moments. Among them is, "That no two fires are alike;" "that every fire must be fought differently;" "and that no amount of book instruction will make a good fireman;" he must be practical and have practical experience under the direction of teachers to succeed. While this is generally accepted as being true, there are many things that may be learned from the expressed experience of others that will result in the saving of years of hard work and study in obtaining that degree of proficiency, which should be the aspiration, and is necessary in the making of a first-class fireman.

LESSON NO. 1.

FIRE, CAUSE AND ORIGIN.

Fires are practically from three causes,—Design, Carelessness or Accidental, and may be classed as slow or quick burning.

By design is meant, arson or incendiarism in all its degrees.

By carelessness is meant, the using of gasoline or other volatile inflammable liquids near an open flame; the improper handling of oil lamps, oil stoves, and candles; gas leaks; unprotected gas brackets; permitting the accumulation of rubbish; discarding lighted cigar or cigarette stubs; the hanging of clothing over or near stoves; hot ashes deposited in wooden receptacles or thrown against wood partitions or walls; permitting children to handle matches; electric wiring improperly installed; defective chimneys and flues; and many other equally unnecessary fires are caused by carelessness, indifference and neglect.

Spontaneous combustion, or self-ignited, are responsible for many fires and if traced to the cause will be found to be generally from carelessness and with care could have been preventable. Oil soaked rags, cotton or waste paper placed in clothes closets, or boxes, vegetable oils, hay, grain packed or placed in heaps, becoming damp, are susceptible to spontaneous combustion.

By accident is meant, fires that may have occurred through the carelessness of others, or by some unavoidable cause, such as an adjoining fire, etc.

In fighting fires in buildings, construction, location and conditions must be given consideration, and each fought according to circumstances; no set rules can be made as to the placing of companies or hose lines.

In buildings having large inside area, without partitions, such as churches, theatres, halls, factories, stores, etc., it will be found that when a fire occurs it will spread rapidly and be drawn upwards; the same condition also is found when fire is in large open rooms, halls, corridors or cellars or near, or in the line of an open stairway, or shaft. This is especially found in high buildings. Ordinary material, when on fire and confined in a small room or space, will never burn with the same rapidity as when in a large room or space. The reason for this is, that air must be present to create what is termed a quick fire. The larger the air space, the more rapid the fire. A building may be compared to a large stove. Where a new fire is started, if the draught door at the bottom and the damper in the pipe are opened, the fire will increase in volume. A fire in a building with plenty of air acts in the same manner.

LESSON NO. 2.

IMPORTANT DONT'S.

The duty of a fireman is to extinguish and prevent fires, and save life and property.

Firemen in their eagerness to extinguish fires are sometimes negligent in their duty relative to property, and valuable property has been lost or destroped by carelessness in the extinguishment of fires.

Avoid putting water on property or goods that are not on fire, unless the same are in actual danger of catching on fire.

Do not open a pipe or nozzle until fire is seen and do not play on smoke. This is not intended to mean in cases where heat, gases or fumes of ammonia or acids are accumulating, and which could be driven back with a stream and the seat of the fire reached, or where a life is in danger.

Do not open a pipe or nozzle full force when a small stream would extinguish the fire.

Do not remove the tip of the nozzle unless it is necessary.

Do not pump more water on a fire than is absolutely necessary to extinguish it.

Do not upset with a stream materials that are not on fire or trample on them while working at fires, but remove the material and place carefully to one side.

Do not pull down ceilings or other burnt material on top of goods that are not on fire. When there are large quantities of goods which cannot be removed readily, the Fire Insurance Patrolmen should be called and allowed to spread their covers over the same before a ceiling or other material is pulled, or before water is used, that is, whenever it is possible to do so without the danger of the fire extending.

Do not move anything that appears in any way suspicious of incendiarism, or that would be liable to cause fire when moved, until every precaution is taken and the officer in charge of the proper authorities notified.

Do not throw clothing or articles out of a building unless it is necessary to do so for safety, or to extinguish or prevent the spread of the fire or unless specially directed to do so by the officer in charge at the fire. All articles of value are collected by the Fire Insurance Patrolmen at or after the fires, and when they are thrown out of a building it gives them unnecessary work in collecting the same.

The Fire Insurance Patrolmen should be given assistance in saving property at a fire and care should be taken by the firemen not to injure covers by jamming the points of hooks or blades of axes into them.

LESSON NO. 3.

BRANCH OF FIRE DUTY.

A fireman's duty is divided into two branches and should be worked together harmoniously; they are known as engine or hose and truck duty.

A good officer or fireman will thoroughly familiarize himself with both branches of the service and see that all apparatus, horses, harness, hose, ladders, tools and other implements intrusted to his care are always in good order and ready for immediate use. He should learn how to use them and familiarize himself with all apparatus of the Department.

It is very much to the advantage of firemen to become familiar with the construction of buildings, so when fighting fire he shall know the manner in which fire will travel and spread unseen, between beams, between floors, behind lath and plaster, through pine holes, belt holes, recesses and other hollow spaces, up dumb waiters, elevators, air and light shafts, up stairways, across hanging ceilings, through cornices, etc., and know how to quickly get at the fire.

It is also very much to the advantage of the firemen when fighting a fire in a smoke charred building, if they know the interior plan and construction, where the stairways, halls, elevators, entrances and exits to all parts are located and also the contents of the building. All firemen should familiarize themselves with every building within the district where they respond to fires on the first alarm,

and every company should have in quarters, drawings and a description of each building and its contents.

The first duty of an officer in command at any fire is to direct the company or companies under his command, to work at the best possible places of advantage in order to extinguish the fire in the quickest time with the least damage to property. A Company Commander should direct the members of his company to keep together (unless otherwise ordered), so that they may relieve one another in case of any special work to be performed in the extinguishing of fire or saving life or property.

The first duty of firemen at a fire is to obey orders from superiors, to work harmoniously, quickly and cooly with others, using common sense and discretion at all times and not wander around or become separated from their companies.

Officers and firemen at fires should work together and avoid as much as possible shouting and confusion of orders and answers.

The officers first to arrive at or in charge at any fire which is in a cellar, sub-cellar, or on any separate floor, room or part of any building, should after directing the company or companies under his command, immediately examine, or cause to be examined the floor above the fire for the purpose of ascertaining whether the fire has extended to the floor above through shafts, stairways, openings, hollow partitions, recesses, pipe holes, or in any other manner and prevent the fire from extending by use of second lines or second company lines.

The first duty of an engine or hose company first arriving at a fire is to get a stream of water on the fire, if a stream is required. If the fire is endangering the life of any person or persons, the line, pipe, or nozzle should not be left or the stretching in the line stopped by the member of the company in an effort to rescue the endangered person or persons as very often by getting a stream of water on the fire it greatly lessens or entirely removes the danger to person or persons.

If the person or persons are in great danger or about to jump from an upper window, men who can be spared from the line and any citizens present should be utilized to effect their rescue by holding the jumping net or by the use of scaling or other ladders, or in such manner as may be required, but under no circumstances should a line be left alone entirely, or the stretching in of the same stopped.

Horse blankets can be utilized for jumping nets in extreme cases, or where the regular jumping nets are not at hand, sufficient in number or the distance not too great. The fire engine or hose company arriving at a fire should always connect the engine or hose to the hydrant or take sections, and stretch the hose line to the building whether the fire can be seen or not, and they should never take any persons' word for it that the fire is out, unless it be from a member of the Fire Department.

Drivers, when taking a hydrant, should not pass the fire to take one on the opposite side unless quicker time can be made by doing so. They should try to take the hydrant on the side which they are proceeding and stretch the line from there to the fire.

When stretching in, hose lines should be laid as near the curb as possible, and on the side of the street or avenue on which the engine or hydrant is located so that other apparatus following will not run over the hose. The hose should also be allowed to run off the wagon and not to be pulled off in folds, so as to avoid having surplus hose lying in the street.

Drivers should avoid running over hose at all times where it is possible to do so.

After stretching in a line of hose take off sufficient number of lengths of hose to reach the fire and allow enough to spare in case the fire extends. This requires judgment and experience and it is always better to have an extra length than not enough as a few minutes delay sometimes causes a loss of thousands of dollars worth of property.

Engine or hose companies arriving at a fire after the first company, should report to the officer in charge at the fire before stretching in their lines, as the officer in charge may require their lines at a certain place.

Engine or hose companies equipped with both three and two and a half inch hose should on their arrival at second or greater alarm of fire, when ordered to stretch in, stretch to the building or fire with the three inch hose and if necessary to enter the building or for any other purpose fill out with the two and a half inch hose unless otherwise directed.

After a company has stretched in their lines and the nozzle or pipe has been put on and the water started, the kinks should be immediately taken out of the line as they tend to reduce the pressure at the nozzle and liabel to burst the hose.

When moving or lightening up on a line of hose whether it is charged with water or not, it should be caught hold of near the couplings and if necessary a man placed at the center of each length or every twenty-five feet; this prevents the lugs on the couplings catching on obstacles and makes it easier to move the line.

(Continued.)

STATIC SPARK RISK IN FILLING CARS.

A number of mysterious fires in automobiles have been caused by static electricity.

A chauffeur desiring to fill a limousine in a garage took an ordinary five-gallon can having a wooden handle on the bail and hung it by this handle on the hook of a self-measuring gasoline pump connected with an underground tank in the yard outside. He had drawn about a gallon when be heard a snapping noise and the can was in flames.

He threw the can outside and extinguished the fire. The can was intact so he used it again. When he had drawn about two gallons the can fired again.

Another chauffeur in this same town started to fill his touring car in a garage. The gasoline tank on the car was at the rear, and he used a 16-foot rubber hose connected with a gasoline pump at one end and having a metal nozzle at the other. The nozzle he held just above the filler hole while another man did the pumping. A spark half an inch long jumped from the nozzle to the tank and there was a fire.

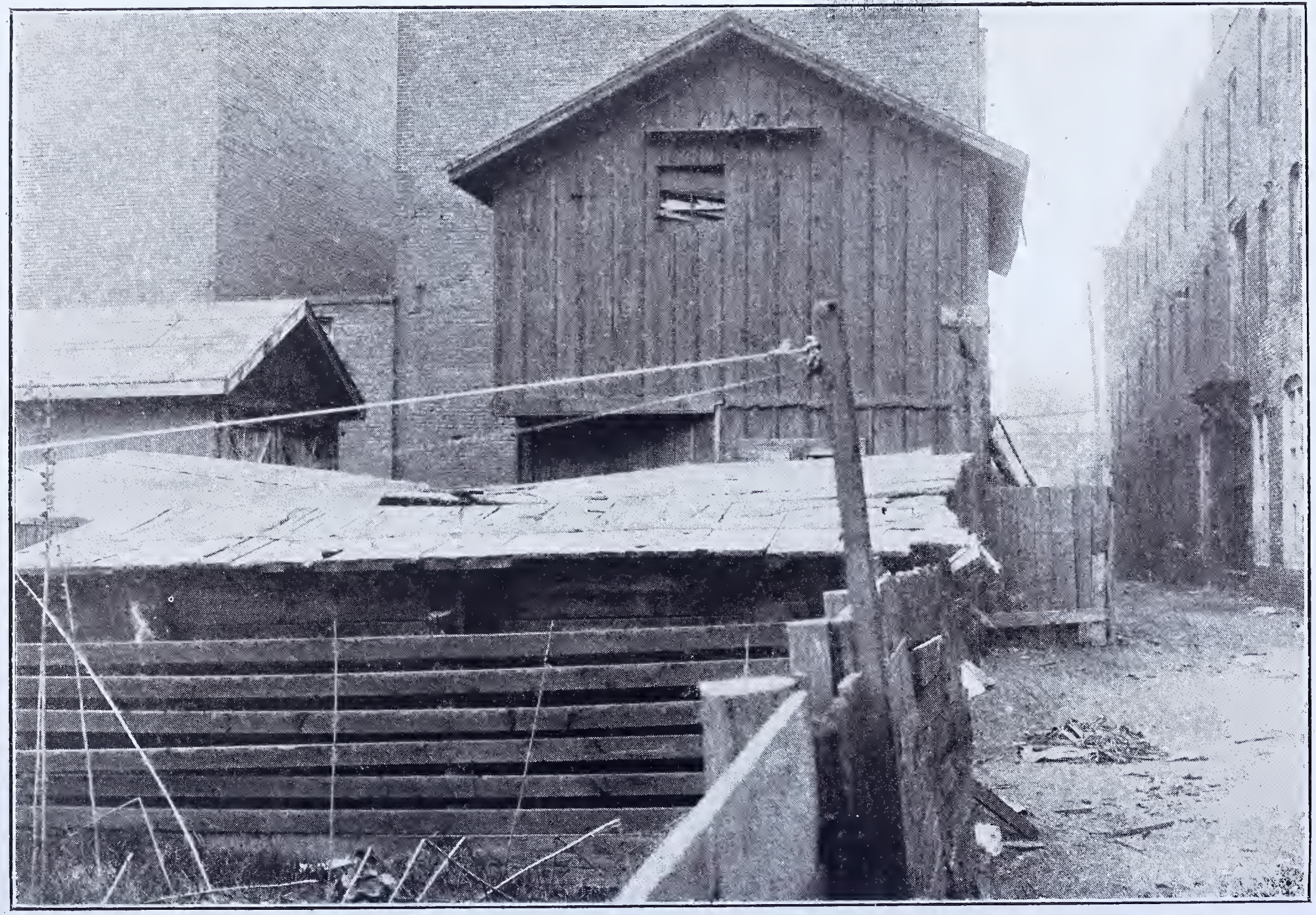
An article published by the Bureau of Mines comments on these fires as follows:

"The explanation of the first fire cited is that the friction of the flowing gasoline against the bottom and sides of the can generated electricity that charged the can. When the potential in the can became too great, the electricity jumped across the space between the metal of the bail and the pump, the can being insulated from the pump by the wooden handle on the bail. A spark was caused that ignited the vapor arising from the gasoline. Had the metal part of

the bail been in contact with the pump nozzle, then there would have been a perfect conductor between the can and the pump, and the electricity would have passed from the can to the pump without causing a spark.

"In the second fire, the gasoline flowing through the rubber hose generated electricity, part of which was stored in the metal nozzle on the outlet end. When the potential in the nozzle became too high the electricity was discharged into the gasoline tank, and as the nozzle and the tank were not in contact, a spark was formed. Had the nozzle been against the metal lip of the opening into the tank there would have been no spark."—Abstract from Firemen's Fund Record.

The removal of old buildings, sheds, etc., means a long step in the direction of reducing fire loss, which they invite. Remove all such and improve conditions for the betterment of the community.



The removal of old buildings, sheds, etc., means a long step in the direction of reducing fire loss, which they invite. Remove all such and improve conditions for the betterment of the community.

Permitting rubbish and trash to accumulate, is an invitation to the careless and evil-disposed to start a fire that might cause loss of life and thousand of dollars worth of property. Play safe by removing temptation.

A fire hazard by reason of age and dilapidation, worth nothing as it stands, but valuable in its removal in the interest of preventing possible fire caused either intentionally or through carelessness.

NUMBER OF FIRES REPORTED SHOWING VALUE OF PROPERTY LOSS AND INSURANCE.

During the Month of January, 1920.
(Exclusive of Philadelphia and Pittsburgh.)

Counties.	No. of Fires.	Estimated Value.	Estimated Loss.	Amount of Insurance.
Adams,	1	$600	$5	$400
Allegheny,	30	191,700	63,134	104,500
Armstrong,	9	74,500	28,922	66,000
Beaver,	7	40,900	8,217	22,700
Bedford,	2	3,000	222	3,000
Berks,	25	244,675	20,743	118,375
Blair,	26	133,750	7,354	81,129
Bradford,	10	33,300	20.871	13,500
Bucks,	7	38,800	27,180	44,500
Butler,	3	12,500	3,592	6,150
Cambria,	16	127,300	29,905	63,600
Carbon,	1	2,100	25	----------
Centre,	7	60,400	12,140	33,100
Chester,	19	1,580,900	36,836	24,650
Clarion,	2	5,600	623	3,500
Clearfield,	4	15,500	10,032	10,000
Clinton,	1	10,500	7,500	7,000
Columbia,	3	5,975	511	3,775
Crawford,	7	27,600	2,395	6,600
Cumberland,	10	55,525	12,430	27,025
Dauphin,	15	95,600	30,745	57,550
Delaware,	16	122,050	20,708	63,050
Erie,	38	1,143,071	70,130	3,398,550
Fayette,	3	39,200	803	11,000
Franklin,	2	9,750	1,450	4,800
Huntingdon,	5	34,200	21,525	20,500
Indiana,	10	28,250	22,640	8,450
Jefferson,	5	21,550	5,869	7,950
Lackawanna,	51	1,256,395	105,218	981,200
Lancaster,	18	121,304	47,120	152,979
Lawrence,	10	32,824	23,959	19,559
Lebanon,	5	8,925	1,945	3,125
Lehigh,	12	271,200	50,570	111,300
Luzerne,	18	187,850	10,190	92,290
Lycoming,	14	292,600	32,039	250,100
McKean,	6	35.050	18,101	15,682
Mercer,	27	299,550	36,170	192,860
Mifflin,	3	3,350	1,560	3,000
Monroe,	1	1,000	1,000	1,000
Montgomery,	11	385,350	111,898	156,650
Montour,	1	11,326	2,200	5,000
Northampton,	17	1,560,800	47,691	1,775,850
Northumberland,	6	38,500	6.285	18 090
Perry,	1	5,800	5,600	2,500
Potter,	3	23,500	23,500	10,100
Schuylkill,	17	89,406	15 333	49,750
Snyder,	1	1,000	30	----------
Somerset,	4	57,000	2,119	35,600
Sullivan,	2	5,300	5,300	1,500
Susquehanna,	5	12.600	5,497	5,000
Tioga,	4	3,550	1,850	1,400
Union,	1	150	60	100
Venango,	12	180,245	34,353	112,960
Warren,	4	74,200	72,200	27.400
Washington,	25	242,010	113,766	83,500
Wayne,	1	3,500	30	2,000
Westmoreland,	16	208,356	8,679	171.081
Wyoming,	1	1,500	20	1,000
York,	16	147,905	15,886	144.304
Total,	597	$9,720,842	$1,266,676	$8,629,234

CAUSE OF FIRE AN LOSS INCURRED.

During the Month of January, 1920.
(Exclusive of Philadelphia and Pittsburgh.)

Cause.	No. of Fires.	Loss.
Adjoining fires,	42	$93,811
Ashes (hot), careless disposal,	8	3,788
Asphalt, tar, pitch, wax, etc., ignition of,	2	50
Backfire,	7	11,236
Candle carelessness,	6	920
Chimneys, flues, stacks (defective or overheated),	114	107,392
Christmas tree decorations,	1	275
Cigars and cigarettes (lighted), carelessly discarded,	6	3,102
Clothing and curtains exposed to contact with stove, heating appliances and unprotected lights,	12	1,300
Coals (hot), falling from stove, furnace or fireplace,	7	3,810
Drunkard's carelessness,	1	400
Electric, flat and gas iron carelessness,	1	60
Electric wiring, defective,	20	97,874
EXPLOSIONS,	2	4,555
Acetylene,	1	100
Alcohol, gas and oil lamps,	1	2,000
Alcohol, gas and oil stoves and heaters,	14	3,257
Boiler,	1	50
Coal oil and kerosene, starting fires and filling lamps and lanterns,	1	1,500
Gas leak,	9	5 575
Gasoline, benzine, naphtha, careless use and cleaning with exposed to fire or unprotected lights,	14	134,325
Gasoline, pipe or storage leak,	1	2,500
Water back,	1	95
Fireplace, defective or overheated,	4	572
Furnaces, heaters, stoves, and their pipes, defective or overheated,	62	172,147
Grease ignition on stove,	2	2,004
Incendiary,	6	27,679
Lamps and lanterns, overturned,	3	2,019
Matches, careless use and keeping,	24	14,061
Matches, children,	10	1,698
Matches (lighted), carelessly discarded,	1	10
Miscellaneous,	15	36,300
Smoking in bed,	2	175
Smoking meats,	3	1,070
SPARKS,	8	4,573
Chimneys, flues, stacks, cupola,	35	5,575
Locomotive,	3	3,525
Motors,	3	4,450
Stationary engines, tractors, etc.,	1	100,000
Spontaneous combustion,	6	65,500
Thawing frozen pipes,	22	18,160
Tramps,	1	75
Undetermined,	104	318,005
Vulcanizing,	1	40
Woodwork and furniture exposed to contact with stove, heating appliances and unprotected lights,	9	2,063
Total,	597	$1,266,676

CLASS OF STRUCTURES DESTROYED OR DAMAGED BY FIRE.

During the Month of January, 1920.
(Exclusive of Philadelphia and Pittsburgh.)

Structures.	No. of Fires.	Loss.
Academies, boarding schools, colleges, universities,	1	$2,200
Apartment houses, boarding houses, dwellings,	358	270,482
Automobiles,	10	4,271
Bank and office buildings,	3	4,850
Barns and stables (city and town),	9	23,500
Billiard (pool) halls and bowling alleys,	3	6,765
Buildings in course of construction,	2	800
Chapels and churches,	10	121,278
Club, lodge and society rooms,	3	17,200
Electric Railway Property:		
Passenger cars,	1	3,500
Farm Property:		
Barns and stables,	8	29,862
Outbuildings,	2	1,435
Garages, private,	14	20,985
Garages, public,	9	197,642
Hotels,	5	8,995
Manufacturing and Industrial Establishments:		
Abbatoirs and slaughter houses,	1	3,000
Ammunition, high explosives and shells,	1	1,800
Bakeries,	1	4,500
Brick and clay works,	1	16,991
Car works,	1	11,200
Carpenter shops,	1	2,000
Clothing (women's),	1	25
Coal mining property,	1	119
Furniture,	1	1,205
Hosiery and knitting,	2	27,020
Iron and steel, blast furnaces, foundries, rolling mills,	8	134,480
Machine and repair shops, variety,	1	16,000
Miscellaneous,	8	34,538
Oil refineries and well works,	1	75
Paper and pulp,	2	29
Planing mills,	3	21,705
Printing establishments,	1	10
Silk and lace,	1	100
Smoke houses,	5	390
Stationery supplies,	1	25
Textile,	1	325
Water works,	1	5,500
Cleaning and dyeing,	2	950
Mercantile Establishments:		
Barber shops,	1	900
Boots and shoes,	2	1,153
Department and general stores,	5	13,680
Drugs and medicines,	1	75
Flour, feed and hay,	1	7,070
General stores (rural),	1	25
Groceries,	3	475
Hardware,	1	20
House furnishings,	1	69,463
Meats,	2	23
Men's furnishings,	1	600
Miscellaneous with dwelling occupancy,	43	72,660
Miscellaneous,	11	31,997
Restaurants,	3	3,639
Stationery and wall paper,	1	25
Miscellaneous,	7	34,500
Outbuildings (city and town),	4	215

CLASS OF STRUCTURES DESTROYED OR DAMAGED BY FIRE.—Concluded.

Structures.	No. of Fires.	Loss.
Railroad (Steam) Property:		
Freight depots,	1	2,500
Feight rolling equipment,	3	1,925
Office buildings,	1	220
Passenger stations,	1	1,750
Shops,	1	50
Tool houses, towers, water stations,	1	150
Miscellaneous,	3	395
Schools, public,	7	12,289
Schools, private,	3	1,225
Tanks (inflammable oils and liquids),	1	5
Warehouses and Storage:		
Explosives,	1	3,600
General storage,	2	10,295
Total,	597	$1,266,676

NUMBER OF INSPECTIONS MADE AND ORDERS ISSUED FOR REMOVAL OR REMEDYING OF FIRE HAZARDS.

During the Month of January, 1920.

Buildings Inspected.	Removal of or general repairs to dilapidated buildings.	Removal of rubbish and waste accumulation and regulating proper disposal thereof.	Repair chimney or stovepipe connections.	Change or repair lighting arrangement.	Install fire extinguishers, sand or water buckets.	Place metal or asbestos protection around heat appliances or installation of other fire retardents.	Orders not necessary.	Total number of orders.
Apartment houses, boarding houses, dwellings.	2	2	0	0	0	0	2	4
Bank and office buildings,	0	0	0	0	0	0	3	0
Barns and stables (city and town),	9	9	0	0	0	0	0	18
Billiard (pool) halls and bowling alleys,	0	1	0	0	0	0	7	1
Club, lodge and society rooms,	0	0	0	0	0	0	3	0
Electric Railway Property:								
Office buildings,	0	0	0	0	0	0	1	0
Farm Property:								
Outbuildings,	0	1	0	0	0	0	0	1
Garages (public),	0	0	1	0	2	2	19	5
Hotels,	0	0	0	0	0	0	7	0
Junk shops and yards,	0	1	0	0	0	0	0	1
Manufacturing and Industrial Establishments:								
Bakeries,	0	0	0	0	0	0	7	0
Carriages and wagons,	0	0	0	0	1	0	3	1
Cigars and cigarettes,	0	0	0	0	0	0	1	0
Cleaning and dyeing,	0	0	0	0	0	0	1	0
Clothing (women),	0	0	0	0	0	0	1	0
Cobblers,	0	1	1	0	0	1	7	3
Electric light and power plants,	0	0	0	0	0	0	1	0
Feed and flour,	0	0	0	0	0	0	5	0
Ice cream,	0	0	0	0	0	0	2	0
Laundries,	0	1	0	0	0	0	1	1
Leather goods and saddlery,	0	0	0	0	0	0	7	0
Machine and repair shops, variety,	0	1	0	0	0	0	1	1
Mattresses and upholstery,	0	0	0	0	0	0	2	0
Metal, miscellaneous,	0	0	0	0	0	0	1	0
Miscellaneous,	0	0	0	0	0	0	4	0
Planing mills,	0	0	0	0	0	0	1	0
Plumbing and tinning,	0	0	0	0	0	0	4	0
Printing establishments,	0	1	0	0	0	0	7	1
Silk and lace,	0	0	0	0	0	0	1	0
Tobacco,	0	0	0	0	0	0	1	0
Woolen mills,	0	0	0	0	0	0	1	0
Mercantile Establishments:								
Automobiles and accessories,	0	0	0	0	0	0	7	0
Barber shops,	0	0	0	0	0	0	4	0
Boots and shoes,	0	0	1	0	0	0	16	1
Confectionery and ice cream,	1	0	0	0	0	0	10	1
Department and general stores,	0	2	0	0	2	0	19	4
Drugs and medicines,	0	5	0	1	0	0	19	6
Electrical and gas fixtures and supplies,	0	0	0	0	0	0	2	0
Flour, feed and hay,	0	0	0	0	0	0	8	0
Groceries,	0	6	0	0	0	0	76	6
Hardware,	0	1	0	0	0	0	11	1
Hats and caps,	0	0	0	0	0	0	1	0
House furnishings,	0	1	0	0	0	0	11	1
Jewelry,	0	0	0	0	0	0	6	0
Ladies' furnishings,	0	0	0	0	0	0	8	0

NUMBER OF INSPECTIONS MADE AND ORDERS ISSUED FOR REMOVAL OR REMEDYING OF FIRE HAZARDS.—Concluded.

Buildings Inspected.	Removal of or general repairs to dilapidated buildings.	Removal of rubbish and waste accumulation and regulating proper disposal thereof.	Repair chimney or stovepipe connections.	Change or repair lighting arrangement.	Install fire extinguishers, sand or water buckets.	Place metal or asbestos protection around heat appliances or installation of other fire retardents.	Orders not necessary.	Total number of orders.
Meats,	0	1	0	0	0	0	5	1
Men's furnishings,	0	0	0	0	1	0	16	1
Millinery,	0	0	0	0	0	0	8	0
Miscellaneous with dwelling occupancy,	0	1	0	0	0	0	0	2
Musical instruments and sewing machines,	0	0	0	0	0	0	6	0
Notions and novelties,	0	1	0	0	0	0	7	1
Restaurants,	0	1	0	0	0	0	10	1
Stationery and wall paper,	0	2	0	0	0	0	8	2
Tailoring,	0	0	0	0	0	0	10	0
Tobacco and cigars,	0	0	0	0	0	0	5	0
Wholesale groceries, produce and fruits,	0	0	0	0	0	1	4	1
Miscellaneous,	0	3	0	0	0	0	2	3
Outbuildings (city and town),	3	3	0	0	0	0	0	6
Postoffices,	0	0	0	0	0	0	1	0
Road houses, saloons and taverns,	0	0	0	0	0	0	3	0
Telegraph and telephone exchanges,	0	0	0	0	0	0	1	0
Theatres and motion picture houses,	0	0	0	0	0	0	3	0
Warehouses and Storage:								
General storage,	0	0	0	0	0	0	1	0
Total,	16	45	3	1	6	4	389	75

THE ELIMINATION OF FIRE HAZARDS AND CAREFULNESS ARE A REQUISITE PART OF THE SPRINGTIME HOUSE CLEANING.

The regular spring observance of general house cleaning is now about to begin, and it should be undertaken at this time with more thoughtfulness than ever before with a determination to eliminate every hazard which adds to the burden of life in these days of high cost of living. In this, the reconstruction period, it is essential that every effort be put forth to reduce the enormous taxes which are overburdening the people, and will continue to increase, unless strenuous effort be made to reduce the waste, caused particularly by elements of carelessness, indifference and neglect. This condition must be corrected, and by so doing, thousands of dollars can be saved that are now wasted by failure to banish *dirt* and *rubbish* from homes and other premises, and thus save at least from 65 to 75 per cent. of the dollars lost, caused by fire and attributable to failure in eliminating the fire hazards which abound in and about buildings and premises of the thoughtless and careless.

There can be no reasonable argument against cleanliness which is a health and life saving essential, and means carefulness; and carefulness is productive of less fires; and less fires means freedom from worry and more dollars saved to be enjoyed for other purposes than paying taxes for other peoples fire losses.

The press, fire department, police departments, clergymen, superintendent, teachers and pupils of schools, woman's clubs, housewives, business men and their associations—Boards of Trade, Chambers of Commerce, fire prevention associations, insurance men, labor organizations, and all who are engaged in any trade or calling are neglecting an important, worthy, and necessary call when they fail to organize and actively engage in a campaign for the prevention of fire by thoroughly cleaning the individual home and the entire community and keeping it forever clean thereafter. Attractive, healthy, clean communities invite trade and visitors, and they can be made so, and kept so, by carefulness, co-operation and conservation, and

there can be no better evidence of determination to conserve life and property, than by planning and carrying out CLEAN-UP DAYS and helping to reduce the fire waste which is an enormous tax. All this can be readily accomplished by co-operation, and directing effort towards the saving of property which is being uselessly sacrificed through neglect, carelessness and the folly of owners and tenants in failing to use proper precautions for the prevention of fire.

It is within the providence of every person to lend assistance in advancing the movement for conservation, and it is indisputably a duty to do so, not alone from an individual standpoint, but pride and community spirit should dictate assistance in any movement that has for its object the saving of lives and property. By co-operative interest, the citizens of the State at large, regardless of station, whether the owner of property, occupant of an entire house or only of one or more rooms, are vitally interested, and can do a great deal to bring about results in the important movement for the prevention of fires.

Fire prevention; like fire fighting, is an evolution, not a revolution, and by educational means a realization of its worthiness as a saving proposition can be fully established. Expend a portion of leisure time to the study of how to safeguard property against fire, and put into practice the lessons learned. The method is simple, consisting of making a thorough inspection of your home or any other building or premises that you may be interested in, and then get busy and correct conditions or defects that may be found, and above all, CLEAN, CLEAN, CLEAN and KEEP CLEAN, permitting no accumulation that would cause fire.

Carelessness is one of the greatest, if not the greatest causes of fires. During the winter much useless material may have accumulated and been stored away in closets, cellars, attics, or other out of the way places, just to get it out of sight until the spring CLEAN UP. This should not be; it is a dangerous practice. There should be no packing away of useless articles or other material of inflammable nature. All such should be immediately removed and destroyed. If this is done, it will make house cleaning much easier and lessen the causes of many fires. Use care in getting rid of rubbish. If burned; do not do so on a windy day; nor should it be piled near a building. Be sure not to leave a smouldering fire. A few sparks from a rubbish fire may fall on a roof and cause a destructive fire.

Won't you adopt the plan of having a Clean Up Day every day, and help reduce the fire waste, which is of such enormous cost, not only to you, but to all your neighbors?

If rubbish is burned every night or morning, either in the furnace, or in a metal oven, with a mesh wire over the top, the danger of fire carelessness will be eliminated. If it is not destroyed every day, the pile grows and the danger of fire increases in like proportion. Oily rags will produce spontaneous combustion, and should always be kept in closed metallic receptacles. Many instances can be cited where great destruction of property has occurred by fire started through the spontaneous combustion of oily rags which were thrown in a corner or closet and forgotten. Thousand of business men fail to safeguard their business, which strict economy and industry have created. Nor do they give a thought to the protection of the lives of their employees. They, of course, carry insurance, and, in case of fire, expect to be refinanced from this source; but those who have experienced such a loss know that no amount of insurance can restore lost trade, which becomes scattered as the inevitable result of fire loss which was probably caused by carelessness and could have been avoided by the prompt removal of fire breeding material and keeping the premises clean.

Fire prevention should dictate to every parent to see that the house in which he lives is a safe abode for his family. There should be protection against physical danger, theft, disease, fire, etc. The first two dangers should be taken care of when the house is built, while the last two are matters of more or less constant attention. When disease is indicated by symptoms, you immediately call a physician, but when fire threatens you, you are unprepared, though you should realize that danger from that source is constant and comes when least expected. You can be prepared by the introduction of fire extinguishers that can be used by even the children, and should do so at once. They are considerably less expensive than a fire and have been the means of saving many lives and much property. Two or three one-quart extinguishers placed through the house, ever ready for emergencies, will certainly produce a sense of security in the minds of the inmates and perhaps be instrumental in saving from destruction the property thaat represents the expenditure of years of energy and deprivation of many pleasures.

STOP BURNING UP HOMES.

The housing problem is one of the greatest issues of the day. All unnecessary construction was forbidden during the war, and now that the restrictions have been withdrawn the high prices of materials and labor and industrial troubles have tended to reduce the amount of building. In many industrial centers newcomers are unable to get houses to live in, rents have gone up, and the situation has become so serious that state and municipal commissions are seeking a solution.

Why not stop burning up the existing buildings, if there are not enough to go around and more cannot be built under existing conditions? Thousands of homes are burned each month, most of them through carelessness. If housing is so important, if homes are so hard to find, why not be careful with those that we have? Apply fire prevention methods. Be careful about matches, smoking, lighting and heating apparatus and gasoline. Clear out the rubbish, inspect the flues, watch the shingle roofs. Conservation is the order of the day, and if the shortage of dwellings will cause householders to be careful about the fire hazards of their homes one criminal cause of that shortage will be greatly reduced.

SCHOOL HOUSES.

In many instances but little attention is paid to the erection of school buildings that are safe from a fire hazard standpoint. If there is anything that should be considered and adopted, it is a building code, particularly for school houses and other public buildings when people assemble. Possibly ninety per cent. of the two-story school buildings throughout the State are defective in the matter of exits and fire escapes, and should a fire occur in these buildings during school hours, a number of the children would be maimed, if not killed.

In every school they should have fire drills at least once a month, and more frequently, if possible, and these drills should be at such times as the children are least expecting them.

The safety of the lives of the school children should be sufficient reason why drastic regulations should be enforced, requiring teachers to look after the safety of children under their control, and the principal or teacher who does not think it important enough to spend five or ten minutes each week or month in teaching a fire drill, is not capable of being in charge of children placed under their supervision.

BEFORE THE FIRE.

Human life is the most precious thing in the world, although a visitor from Mars wouldn't be likely to think so if he judged from current events almost anywhere in this nation. We have our factory inspectors and other officials armed with power to investigate industrial plants and conditions. Whether they do their work or not, the public does not usually know. But tragedy after tragedy happens that surely could not occur if conditions were what they ought to be. The way to a fire escape blocked, an insufficient exit or no exit at all, a narrow stairway, doors to outdoors opening in, doors locked that should be open at all times—these causes are found in reports of holocausts of greater or less fatality. There are accidents, of course. Everybody knows that. But investigations beforehand in a great many buildings would save not only life but property.

In recent years terrible tragedies have stirred a number of states to do their utmost to prevent fires. Pennsylvania is doing its bit in this way. But a State Fire Marshal cannot reach all over the State, nor are his glasses adjusted for such long distance vision. He must depend on his deputies. If they wink at violations of the law because changes would be costly to the owners of fire traps, on their shoulders must rest responsibility for the precious lives that are endangered. If they do their duty they may temporarily lose friends but their consciences will be clear

Nor are people who know of fire trap conditions and fail to report them guiltless. It is no rare occurrence to hear or overhear some-

body say: "Why, that building is a dangerous one. I wouldn't like to be in it at time of fire." Better tell somebody, then. Ask a lawyer or a city official or burgess or somebody who should be informed. Delay is dangerous and somebody's life may pay the penalty. But first, examine your own premises. Could you get out of your own house safely if a stairway were to be found ablaze? Do you have an extinguisher convenient? Your house may never take fire, but preparedness will not cost much and it will pay for itself in that easy feeling you will have all the time as to the safety of yourself and your loved ones. Does your flue need pointing? Look after it early as possible in the spring. Are your range and furnace pipes in good condition? Thorough investigations are all right, but the time for them is before the fire, not afterward. Therefore, since we know not when the fire fiend will make its appearance, the time for investigation is at once, and remedy conditions so as to eliminate any possibility of fire.

Make every day a fire prevention day, by inspection and removal of all fire breeding menaces.

FRANKLIN & MARSHALL
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MONTHLY BULLETIN

"MAKE PENNSYLVANIA FIREPROOF"

Department

OF

STATE POLICE

OF

Pennsylvania

BUREAU OF FIRE PROTECTION

OFFICE—ROOM 166
Capitol Building, Harrisburg, Pa.
CECIL M. WILHELM, Chief of Bureau

VOL. VII MAY, 1920 No. 50

CRIMINAL CARELESSNESS.

What might have been a costly mistake, causing loss of life and property, was averted recently in one of the boroughs of the State by the timely discovery of one of the customers of an oil distributer finding that the supposed kerosene delivered to her was in reality gasoline. Upon calling it to the attention of the oil man, he hastened to take it away, substituting kerosene, and had to go among his other customers and exchange the entire contents of a barrel of gasoline which he had delivered as kerosene, explaining that the company from whom he purchased the supposed oil had put the gasoline into a kerosene barrel, and it was so stenciled.

Such careless action as this, which endangers lives, borders on the criminal, and there should be adequate punishment applied that would prevent the recurrence of such carelessness.

Vol. VII No. 50

Monthly Bulletin

Department

OF

STATE POLICE

OF

Pennsylvania

BUREAU OF FIRE PROTECTION

CECIL M. WILHELM, Chief of the Bureau

BULLETIN OF INFORMATION FOR THE PUBLIC

MAY, 1920

HARRISBURG, PA.:
1920.

1920—FOURTH OF JULY.

HELP IN THE CELEBRATION OF A SAFE AND SANE FOURTH OF JULY. SAFETY SHOULD BE THE HIGHEST CONSIDERATION, NOISE SECONDARY.

Commemorating the struggle engaged in by our forefathers for liberty and freedom from tyranny, Americans have regularly celebrated the fourth of July as the one particular occasion for patriotic rejoicing by the firing of guns, use of fire crackers and pyrotechnic displays.

Recognizing the great sacrifice of life already unfortunately inflicted upon the citizens of the State through the careless handling of fire crackers and fireworks, it is time that avoidance of further casualties and that endeavor be made to reduce the usual fatalities.

Municipal authorities and all citizens are urgently requested to observe the day in a safe and sane manner as a most important conservation measure and the elimination of the possibility of evilly disposed persons taking advantage of the occasion to cover the committing of overt acts.

The indiscriminate sale and use of fire crackers and fireworks should be discouraged. If displays are made they should be under the supervision of some responsible organization.

Many sad memories remain through the participation of thousands in a noisy, dangerous celebration of the Fourth. Let's have less noise, fewer accidents, and a minimum of fires. You can be a contributing factor in bringing about these results by insisting on a sane celebation on the Glorious Fourth. Won't you do it, and help avoid a repetition of the casualties of other years, which caused the death of many persons, the maiming of hundreds of others temporarily and for life and the destruction of thousands of dollars worth of property. What are you going to do about it this year? Let us have a sane fourth. Let orators speak of our great achievements, let us instill patriotism, inveigh against the hellish designs of bad men who are tinctured with anarchism, and cut out the fireworks. Work for a sane and glorious patriotic, free from noise Fourth.

The movement for a safe and sane Fourth of July, free from the too frequent calamities, is one of conservation. Conservation of life, limb and property and freedom from distracting noises produced

by the firing of guns, pistols, fire crackers and other equally dangerous catch penny affairs that are subject to purchase by small children, and careless adults who use no judgment in their handling, or care less about effect, so that there is noise, noise and more noise, and often resulting in eyes being blown out, arms torn off, lives lost, and property destroyed by careless handling of fireworks on this glorious day. Noise is not patriotism. Let us go back to the old days when Fourth of July was sanely celebrated by the unfurling of the Stars and Stripes, salute of guns, ringing of church bells and patriotic songs and speeches. The fire cracker is a national nuisance and its use should be avoided in the interest of safety. Avoid calamities by a safe and sane celebration on the coming Independence Day. Think it over and act accordingly and help uphold those in authority who are endeavoring by their action to guard you and yours against possible calamities.

Mayors and Burgesses of the State are urged to co-operate in the effort made for the celebration of the Fourth of July, 1920, in a safe and sane manner by having ordinances enacted by councils prohibiting the sale or use of fireworks, as the prohibition of sale and use or restriction of the use of fireworks will result in the saving of life and property. The adoption of other means to celebrate the day will add materially and beneficially in a true knowledge of patriotism and what it means in fostering love of country as Americans.

The late Theodore Roosevelt rightly said, "Unless the country is made a good place for all of us to live in, it won't be a good place for any of us to live in." Let's make it that good country by doing away with the cause of much suffering and sorrow in the past, the noisy fireworks and instill patriotism in the hearts of all the people on the Fourth of July.

For more than four years the whole civilized world witnessed a seething mass of fireworks. Haven't we had enough of them to last a lifetime? Cut them out on the coming Fourth of July and Celebrate Safely and Sanely!

WHY LOSS BY LIGHTNING.

The reason for electrical storms, productive of that destructive element, lightning is about due, many lives and thousands of dollars worth of valuable property will be sacrificed by the short-sighted

policy of property owners failing or refusing to take advantage of the one measure of protection that has proven beyond doubt by years of experiment, effective in the prevention of loss from that devastating agency.

Lightning is no respector of persons, yet it is found that the farmer suffers the greatest loss, which can be accounted for by reason of the isolations of farm buildings, whereas in cities and towns where buildings are placed close together, the great amount of metal used in construction act as a conductor carrying away the electrical fluid, thus lessening the danger and giving added proof that there is means by which the loss by lightning can be reduced to a minimum, providing accepted methods are installed for the purpose of safe guarding property and the conservation of resources that would otherwise be in danger of destruction.

Years of investigation by the United States Government and Agricultural Departments, developed the fact that properly installed lightning rods are an almost absolute protection.

Report from eighteen insurance companies showing that out of seven thousand rodded buildings insured by these companies, only two were struck by lightning and they but slightly damaged, proving conclusively that the rodding of buildings as a precautionary measure is a paying investment. Experience has fully established the claim of science that lightning rods as installed, properly or improperly, do actually prevent destruction by lightning occurring in ninety-five cases out of every one hundred.

If insurance companies with the interest of its policy holders in view, and in an effort to prevent loss by lightning, would discriminate against property owners who refuse or neglect to protect buildings, the result would be an immediate increase in providing the protective measure afforded by the rodding of buildings; and this would result in a decrease in insurance rates and the saving of thousands of dollars—now annually wasted in loss of property and resources.

Lightning rods properly installed are an almost absolute protection and out of every $1,000 worth of damage done to unrodded buildings, at least ninety-five per cent. would be saved if the buildings were properly rodded.

You cannot dodge lightning, but you can protect buildings from being destroyed by providing a means of escape for the pent-up

electricity, should it attack your building. The way is open for protection. Why not embrace it by at once having buildings rodded and save unnecessary loss.

SUGGESTIONS FOR RODDING APPLYING TO ALL STRUCTURES.

Either copper or iron is satisfactory for conductors. One advantage of iron over copper is its higher fusing point, but iron should not be use in locations difficult of access where corrosion is likely or possible, owning to the necessity of frequent painting to guard against such corrosion.

Conductors when made of copper to be soft-drawn in the form of either tape or stranded cable. Except as noted below, the conductor in each case to weigh not less than six ounces per foot. Where cable form is used, no single copper wire to be less than No. 12 B. & S. gauge, while if tape form the thickness to be not less than 3-32 inch.

When used on residences, barns, stables, stores and similar buildings where the maximum height of any point does not exceed sixty feet, and where corrosion is not liable to occur to any extent, copper cable to weight not less than three ounces per foot, no single wire being less than .046 diameter.

Conductors when made of iron to be in the form of either heavy tape or pipe. The tape conductor to weigh not less than 1¼ pounds per foot and to be not less than 3-32 inch thick. If pipe is used the standard weight of ¾ inch pipe would be satisfactory. Iron used in any form should be thoroughly galvanized to prevent corrosion, and may also be painted if desired.

Conductors to have as few joints as possible, these to be machanically and electrically secured and to be protected from corrosion.

Conductors never to be insulated but to be fastened securely in place, suitable allowance being made for expansion, by clamps of same material as conductor, the vertical rods being crried a sufficient distance from the wall to avoid sharp bends around projecting masonry or brick work. In all cases as straight a run as possible should be provided and the conductors should incline downward. The conductors should never be run through iron pipes.

Conductors to be run as far as practicable from interior piping.

Air terminals to be solid, not less than ¾ inch in diameter except on residences, barns, stables, stores and similar buildings where

they may be of tubing not less than 5/8 inch in diameter with wall thickness not less than .31 inch. Terminals to extend not less than 18 inches above the point protected.

All exterior metal work, such as metal roofs, gutters, ventilators, railings, chimney hoods, etc., to be connected with the lightning rod system below the line of the metal work itself or to be separately grounded by regular conductors.

All interior masses of metal such as girders, beams, water piping and any structural iron or steel, though under no consideration gas piping, to be securely connected to the system at their highest and lowest points, the connecting bonds being the regular conductor.

A permanent and reliable ground is absolutely essential, and by far the best ground can usually be secured by connection to underground metallic water piping. When this is impracticable, ground plates, driven pipes, or the equivalent are recommended.

Connection to piping to be made preferably by soldering the conductor into a brass plug and forcibly screwing the plug into the pipe fitting, or when the pipes are cast iron, into a hole tagged into the pipe itself; or, by sweating the conductor into a lug attached to an approved clamp and firmly bolting the clamp to the pipe after the rust and scales have been removed.

In the case of a farm building having a well outside and a pump suction pipe running to the building, a reasonably good ground may be obtained by connecting the conductor to the pipe, provided the pipe at some point is in earth below permanent moisture level.

Connection to ground plates to be made by riveting and soldering, and the connection to be thoroughly protected against corrosion by painting. The ground plates to be of copper and not less than No. 16 Stubb gauge about three feet square and buried below the permanent moisture level with about two feet of crushed coke or charcoal above and below it.

Connection to driven pipe to be made by soldering the conductor into a brass plug and forcibly screwing the plug into a coupling on the upper end of the pipe. The lower end of the pipe to be well below permanent moisture level.

Lessons in Fire Fighting (Continued from April).

LESSON No. 6.

CELLAR, SUB-CELLAR, SUBWAY AND SHIP FIRES.

When there is a fire in a cellar or sub-cellar of any building and it threatens to extend upward on the inside, the engine or hose company first to arrive should stretch their line inside the building so as to prevent the fire from extending upward by inside stairway, elevator, or other shaft, or by any hollow space or opening; second lines, second company lines should also be stretched in like manner if the case requires it, or through outside elevator hoists or other outside front or rear openings to the cellar or sub-cellar, so as to reach the body of the fire with streams, if the inside company or companies are unable to do so.

Buildings having cellars or sub-cellars generally have outside entrances to them in the rear; and sub-cellars in most cases have light shafts or areas in the rear of them from which a fire in the sub-cellar can often be fought readily and successfully with streams, by stretching lines of hose through the cellars and sub-cellars of the adjoining building or buildings and across the areas or light shafts to the sub-cellar of the building in which the fire is located.

Fire in a cellar or sub-cellar should be thoroughly ventilated and fought with a stream or streams at, or as near as possible, to the body or seat of the fire; that is, if a fire is in the rear of a cellar or sub-cellar it should be ventilated and fought at the rear; if in the front it should be ventilated and fought at the front, but care should be taken not to drive the fire with the force of the stream on goods or articles that are not on fire; in all cases a pipeman should try to direct the stream directly at the body of the fire and away from goods, articles or material not on fire.

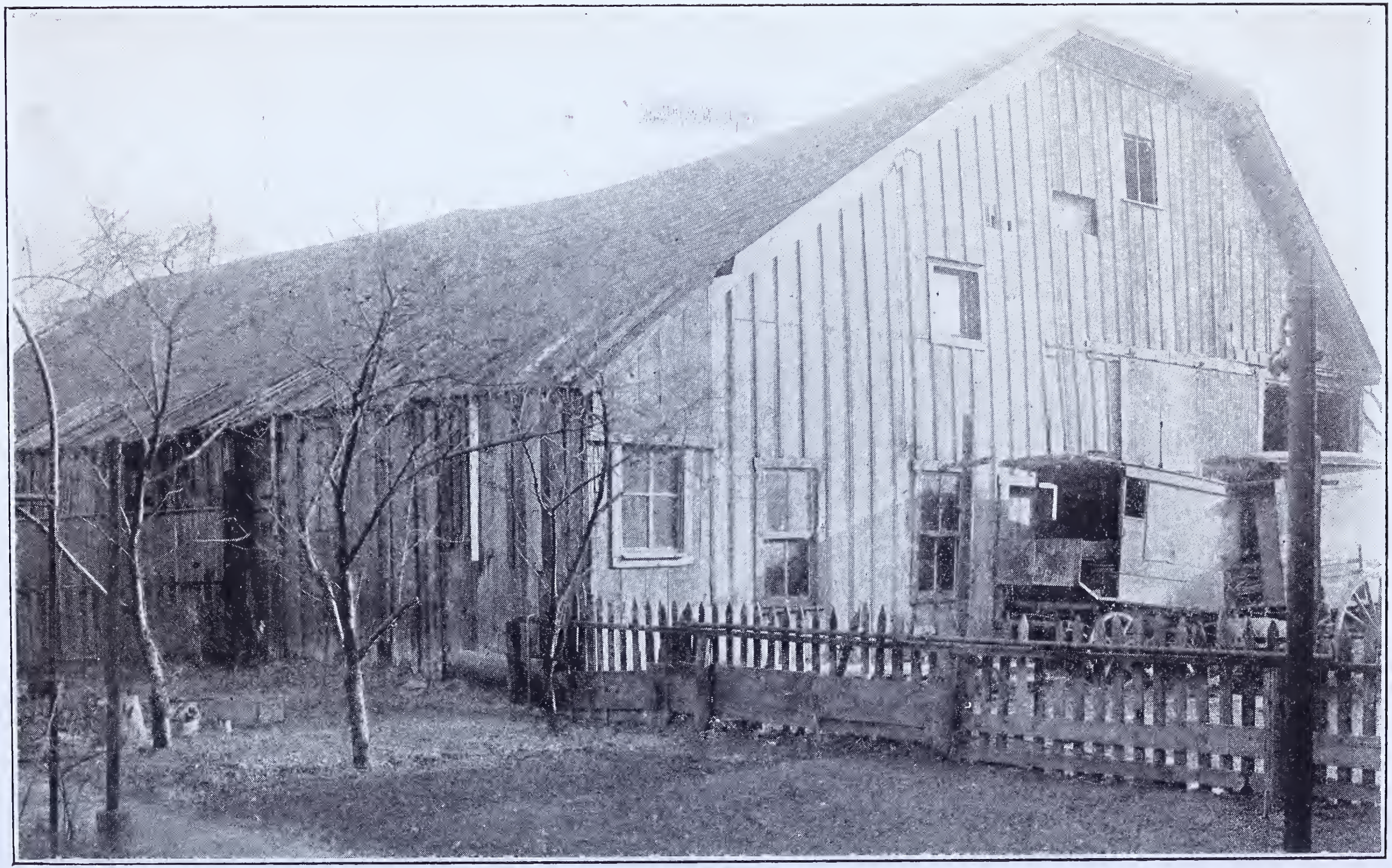
Whether fighting a fire in a cellar or sub-cellar, from the front or rear, the inside of the building should always be protected by a line or lines to prevent the fire from extending upward.

Good ventilation is also important when fighting a fire in a cellar or sub-cellar and all outside openings, vault covers, outside elevators, hoists, dead lights, etc., should be opened if the case required it.

Firemen should particularly familiarize themselves with, and know how to tell, and how to connect to and operate perforated pipe systems installed in buildings for the purpose of extinguishing cellar

Carelessness is in the main responsible for the deterioration of property, and is a sad reflection on owners, who, in these days of inadequate housing conditions could, if disposed, assist in relieving the situation by making repairs to usable buildings or tearing down those beyond repair and selling the material at reasonable prices to those compelled to build.

By so doing fire hazards would be reduced and sale of material would pay for removal.



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or sub-cellar fires; they should also know how to connect their lines to, and operate the cellar, sub-cellar, baker, or other special pipes or distributers used for fighting cellar or sub-cellar fires.

The cellar, sub-cellar, baker or other special pipes when use at a fire should be connected to lines of hose, lowered into the cellar or sub-cellar and turned so as when the water is started the stream will reach the body of the fire.

Distributers when used at a fire should be connected to lines of hose, and lowered about two feet below the ceiling directly over the place where the fire is located and the water started.

All cellar pipes, sub-cellar pipes, baker or other special pipes or distributers when in use should be shut off as soon as the fire is under control, so as to not do any more damage by water than is absolutely necessary.

When fighting fires in subways, elevated or other electric cars in which the fire has full possession, the stream should be directed to the ceiling or upper part of the car through the doors or windows, thus letting the water fall to the floor and avoiding shock from electricity. The pipemen when directing streams and where there is danger from an electric shock, should avoid handling the brass or metal pipe or nozzle. He should direct the stream by catching hold of the hose back of the nozzle or pipe, and when possible to obtain them, he should wear rubber gloves; he should always avoid directing the stream low down on the third rail or any connections to the same.

When there is a fire in the subway between stations or ventilators notice should be taken in which direction the wind or smoke is blowing and the fire be fought with streams from the least smoky side; to fight a fire in a subway from both directions, when it is located between stations or ventilators only tends to drive the smoke from one company to another, causes unnecessary punishment and should not be restored to unless there is a station or ventilator near the fire by which the heat, smoke and gases can escape.

In all cases of danger, or fire where it is necessary to use a stream or streams from a line or lines at a fire in a subway, the agents of the stations on each side of the fire should be immediately notified to shut off all electric power between those stations.

All subway stations are equipped with cut outs or switches for the purpose of cutting out the electric power between stations; they

are also equipped with telephones by which communication can be had with the power stations and the electric power cut out entirely.

In addition to other precautions to prevent trains from approaching or passing any part of a subway where there is a fire and the lives of firemen or passengers become endandered, firemen with red lanterns should be stationed at each side of the fire to prevent the trains approaching.

Ship fires or fires below decks or in the hold of ships are somewhat similar to cellar or sub-cellar fires and should be thoroughly ventilated by opening hatches, port holes, ventilators, or by cutting up a portion of the deck according to the extent of the fire or the circumstances of each case.

When an entrance by the hatchway, stairway or other opening to the hold of a ship is possible, the fire should be fought with a stream or streams from those entrances, and where it is possible to enter the hold it should be fought with distributers, baker, cellar or other special pipes placed in holes cut in the deck or from the ventilators, hatches or other openings.

As fire will not burn without air there must be air in the hold of a ship or other vessel for fire to exist therein, and many serious looking ship fires have been extinguished with a single stream by a fireman taking the pipe or nozzle down the hatchway or other opening, and although severe punishment from heat and smoke may be encountered at the mouth of the hatchway or opening, down in the hold a man could breath easily.

In all cases when a fireman enters the hold of a ship, or other vessel, or subway, cellar or sub-cellar, manhole, or similar place, where there is considerable fire, smoke, heat, fumes or gases, a rope should be fastened around the body to pull him out in case he is overcome.

The smoke helmet may also be used with great advantage when fighting fire in the hold of a ship, vessel or in a subway, cellar, sub-cellar, or in places where there are dangerous gases, fumes or vapors. A rope should also be fastened around the body of the fireman using it and a code of prearranged signals made so that in case the fireman desires to ascend, is becoming exhausted or in danger, he can be pulled out.

A good light (electric or acetylene gas preferred) is of great assistance when fighting fire in a dark cellar, sub-cellar, subway, hold of a ship, or similar places, and should be used if at hand, but no light with an open flame should be taken into any place where gases of an explosive nature have accumulated.

Some vessels are equipped with steam hose for the purpose of extinguishing fire, and this is the best thing with which to extinguish a fire in the hold of a ship, if the fire can be reached with it.

Many ships are also equipped with portable electric search lights that can be carried in the hand to any part of the ship and they are of great assistance when fighting a fire.

LESSON No. 7.

ROOF LINES.

When a company has been ordered to stretch a line of hose to the roof of a building in which there are no standpipes or where the standpipes have already been taken by other companies, the line should be stretched on the outside of the building, unless specially directed to do otherwise. The object of doing this is, that in case the line should burst when it becomes charged it will not do any damage by water to the contents of the building; whereas, if it was stretched through the interior of the building and burst it would be liable to do considerable damage.

The manner of getting a roof line to work when there are no standpipes in a building is as follows:

After a company have stretched their line to the building and taken off sufficient hose to reach the roof they should allow at least one length free and clear on the roof in case it may be found necessary to enter the building, or another building from the roof.

The company should then (with the exception of one man) go to the roof; they should take with them a roof rope, hose roller, axe, and the pipe or nozzle; when they reach the roof the rope should be lowered to the fireman below, who should tie on the line with a half hitch knot. The company on the roof should then hoist the line and as much surplus hose as they can get; fasten it with one end of the roof rope (using rolling hitch) below a coupling if possible and the other part of the rope secure to a chimney or other secure place.

An open pipe is generally used on a roof line, but controlling nozzles should be substituted when it is found necessary to go inside a building where high pressure is not required.

A roof line or line of hose stretched perpendicularly to any great height is generally twisted when stretched, and if these twists are not taken out and the line straightened or the couplings tightened the line will be liable to unscrew at the couplings when it is charged with water.

When there are two or more lengths of hose in a line which has been stretched on the outside of a building or elsewhere in perpendicular position, each separate length should be tied and supported with a rope below the couplings so as to take the weight of the charged line off the couplings and to prevent them from pulling out.

When a company is working with a roof line on a roof, especially in freezing weather, and the roof is liable to become slippery, the pipe or nozzle should be tied to a chimney, iron shutter or other secure and convenient place so as to prevent the back pressure from carrying the pipeman off the slippery roof. If it is not possible to tie the pipe in such cases the pipe holder or pipe stick should be used.

When fighting fire on the roof or upper floors of any building or at any high place, companies should always have with them a roof rope, hose roller, and axe; the roof rope and hose roller to pull up hose from outside if required and the axe to open doors, partitions, etc. The rope can also be used as an escape in case the company is cut off from below.

When a rope is used as an escape from a height by sliding down it, it should be securely fastened at the top first, and the person sliding down should use a cloth, towel, or part of coat, or similar material between the hand to prevent burning of the hands by friction; the legs should also be twined about the rope to prevent descending too rapidly.

IF A HOSE BURST.

When hose burst in a building or in the street a hose jacket should be immediately put on over the break and if it is not sufficient to stop the leak, the line should be immediately shut off at the engine or hydrant, the burst length taken out, and a good length substituted.

When a hose stretched to the roof or upper floor of any building bursts near the roof or an upper floor window, it should be pulled up to the roof or upper floor window and the hose jacket put on the burst there. If the hose jacket does not stop the leak sufficiently, the line should be shut off at the engine or hydrant, the line broken in the street and another length put in there, and the broken length pulled up on the roof or upper floor and taken out. If an extra length is not required in such cases the line should be pulled up to the roof or upper window and the burst length taken out without breaking the line in the street.

When hose stretched on the outside of a building bursts near the street, it should be lowered to the street and the hose jacket put on the burst there, or a good length substituted, as the case may require.

When hose is stretched across any railway tracks, especially in dark or unlighted streets or avenues, or at night, it should be guarded by a fireman with a red light, to prevent the cars or trains from running over and cutting the hose in two. When a line of hose has been cut in this manner another length should be immediately substituted or another line stretched, as the case may require.

LADDER LINES.

When stretching a line of hose up a ladder or fire escape the firemen on the pipe should always keep a firm hold of the nozzle and the ladder or fire escape, as the sudden charging of the line is liable to pull the pipe or nozzle out of his hands or throw him off the ladder or fire escape.

He should always have with him pipe strap or short piece of rope with which to fasten the pipe or nozzle to the ladder, or inside the window.

High pressure on the ladder line will sometimes lift the ladder out from the building and cause it to fall; this should always be guarded against by fastening the ladder and also notifying the engineer that the company is working on a ladder.

When stretching a line of hose through a window from a ladder the pipe or nozzle should be passed, either over the top or along the side of the ladder; the reason for this is, if the ladder is required at another window or for any other purpose it can be moved readily without backing out the line.

When a company is directing a stream through a window or door from a ladder, fire escape, or other place, the pipe or nozzle can be securely fastened and the pipeman greatly relieved from the force of the back pressure or weight of the charged line by fastening one end of the short piece of rope to the center of a six-foot hook and laying it inside the window or doorway across the frame, and the other end tied securely to the pipe or nozzle.

Ladders can be fastened and secured from falling in the same manner by tieing the rope to the hook and the round of the ladder.

BACKING OUT AND PICKING UP.

When an engine company has been ordered to pick up or back down and out from the upper part of a building, the engineer should be notified, and after he has shut off on the line it should be disconnected at the first coupling outside of the building, so as to allow the water therein to run off in the street where it will do no damage; then the line should be backed out with the pipe or nozzle last.

When a company has been ordered to back out without the line they should do so immediately and without question for an officer in charge of a fire can often see more danger than a company or companies working within the building.

LESSON No. 8.

HOSE, NOZZLES AND PRESSURES.

When water is pumped, charged or forced through hose, it meets with a certain resistance from friction or choking of the water in the hose, and causes what is known among firemen as back pressure. The faster water is pumped, discharged, or forced through hose the more resistance and back pressure it will encounter, which simply means the greater the pressure the greater the resistance or back pressure.

When high pressure is to be used in extinguishing a fire, larger hose and larger size nozzles should be used than when working with ordinary or low pressure so as to give the water under high pressure a freer discharge through the line and nozzle.

For all ordinary purposes the two and a half inch hose and the one and an eighth, one and a quarter and one and a half inch nozzle are sufficient, but when a pressure exceeding one hundred and twenty pounds at the pumps of an engine, or at a hydrant is required and there are not more than twenty lengths of hose in line, larger size hose and nozzles or pipes should be used accordingly if they are at hand, and if not, two or more lines should be stretched near to the fire and siamesed into one line there, so as to give freer discharge to the increased pressure of water.

The size hose, nozzles, or pipes to be used when there is high pressure on a line, depends on the number of lengths of hose in a line, or the action of the engine, if an engine is used; when an engine labors or the stream chokes at the mouth of a fully opened pipe or nozzle it is generally an indication that a larger size hose pipe, or nozzle is required.

Nozzles or pipes should be changed or regulated to suit the various pressures, or the pressures increased or reduced to suit various size nozzles or pipes, to obtain the proper and most effective streams.

When there is low pressure on a line of hose and the nozzle or pipe opening is too large the stream will not be effective, and the size of the nozzle or pipe should be reduced until it is.

When there is high pressure on a line and the nozzle opening is too small, the water will choke at the mouth of the pipe and greatly effect the force of the stream or cause it to spray. In such cases the size of the nozzle or pipe should be increased until the most effective stream is obtained.

SIAMESE AND RELAY WORK.

When fire is at a considerable distance from an engine or high pressure hydrant, or is at a high altitude and an effective stream cannot be obtained from one engine or high pressure hydrant line, two or more engines or high pressure lines should be used by siameseing them together, or else the engines should work in relays.

The object of siameseing two or more lines of hose together is to get one larger and more effective stream by uniting the force of the two or more lines into one.

There are also siamese connections in use by which two or more lines of hose may be obtained from one larger line; these connections are generally carried on the fire boats.

By siameseing is meant using two-way, three-way, four-way, or more connections.

No set rule can be made as to siameseing near the engine or hydrant, or near the fire when a single working line and stream is required; it all depends on the action of the engine or engines or the pressure at the hydrant or hydrants or the size of the hose and the number of the lengths required.

When there is exceedingly high pressure required for a single working line and stream, it is better to siamese near the fire so as to give the pressure of water a freer discharge, especially if the hose used is all the two and a half inch size; and when larger size hose than two and a half inch is used it can be siamesed between the engine or engines; or hydrant or hydrants, in case they are of high pressure.

When only one engine is used for the purpose of obtaining a single line and stream, the lines of hose may be siamesed near the engine or between the engine and the fire; that is, if the hose is of sufficient size to give a free discharge from the size and pumping capacity of the engine.

When more than two engine or high pressure lines are siamesed for the purpose of obtaining a single working line and stream they should, if possible, be siamesed near the fire.

When two or more engines are used for the purpose of obtaining a single working line and stream their lines should, if possible, be siamesed near the fire, and the engine should be kept working at similar pressure as any great variations of pressures of either would cause the clapper valve of the siamese on the least pressure side to close by the action of the highest pressure engine overcoming the other, and causing a back pressure. This would also cause the least pressure engine to stop or break down.

When it is necessary to obtain two or more working lines and streams from a single line of hose the siameseing would be done as near as possible to the fire.

Relay work consists of one engine pumping water to another through a line of hose and is used when the fire is at a great distance from the water supply, or on a high elevation of ground. The object of relay work is the nearer the working engine is to the fire and the less hose in line from the same, the better the stream.

When a stream is required at a great distance from the water supply or at a high elevation of ground one engine can pump to another and that one to another and so on to as many as may be required; the last engine may be close to the fire. From twenty to fifty lengths of hose may be used between each engine according to the distance, elevation, or the pumping capacity of each engine or other circumstances effecting each case.

Relay work can be employed to advantage where there are rivers, lakes, reservoirs, ponds, streams, etc., from which suction can be had by an engine.

When small streams which do not afford a sufficient supply of water for suction are met with at a fire, and no other means of extinguishing the fire is obtainable, they should be dammed up with earth so as to make a pool into which the end of the suction can be inserted.

Different sizes of hose may be used in relay work, but invariably the largest size should be used nearest to the water supply.

Engine companies to work in relay should be equipped with all proper connections, reducers, etc.

LESSON No. 9.

FIRE IN NEW BUILDINGS, TOWERS, ETC.

When there is considerable fire in any brick building or buildings, which are in course of construction, it should, when possible, be fought with streams from street pipes or from adjoining buildings or from somewhere outside the buildings, as the walls of such buildings being new or what are known as green, will readily fall from the combined action of heat and water.

When there is a fire in the upper part of a steeple tower or other similar place or structure and a company or companies are operating with lines for the purpose of extinguishing the same, care should be taken if it is necessary to ascend to the upper part that the base is protected by a line or lines of hose, as very often towers, steeples, and similar structures, are furred out on the inside and fire will drop down these hollow spaces and start again at the bottom and cut off all those above.

Care should be taken when walking over the lofts of towers, steeples, domes of theatres, or similar places where there are hanging ceilings, to avoid falling through the same to the floor below.

STILL ALARMS.

The officer of a company receiving a still alarm for fire should immediately send his out of service signal, by Morse key or telephone to headquarters and respond without delay with his company and all apparatus to the location of the fire. This is intended to mean where the fire is still burning and has not been extinguished. It is always better to give a fire the benefit of the doubt and respond with the company and all apparatus than to send one or two firemen to investigate, which would cause delay and might give a fire a great headway or cause considerable loss which otherwise by prompt action and the response of the company would be avoided.

The officer in charge of the company or the house watchman, on receiving a still alarm for fire should always obtain the exact location of the fire, whether the same has been received from a citizen or by telephone and when received from a citizen he should not permit the citizen to leave until the exact location is obtained.

LESSON No. 10.

CHIMNEY FIRES

Water should not be used to extinguish fire in a chimney flue as it is liable to burst the flue or cause the chimney wall to crack; neither should a brick or such articles which would be liable to get caught in the flue be used.

To properly extinguish fire that is in a chimney flue, all the openings to the flue that are below the roof should first be closed up tightly so as to prevent the falling soot from flying about the rooms or premises and doing unnecessary damage. Then a bag of salt, a pail of coal, or a pail of sand, or other similar substances, should be dumped down the flue opening at the roof.

Salt extinguishes a chimney fire by chemical action, when it comes in contact with the fire, and coal or sand will carry the soot down to the bottom of the flue, where it can be removed.

Chemical powders, composed chiefly of bicarbonate of soda or similar salts are very good to extinguish fire in a chimney flue, by throwing a handful of the same up the opening at the bottom and then closing it to prevent the soot from falling and scattering about.

An ounce of sulphur, lighted and placed in a stove, or at the bottom of the flue that is on fire, will quickly extinguish the fire with the fumes that ascend from it.

Another good method to extinguish fire in a chimney flue, where it is desired to remove the soot, is to get a dozen pieces of chain eight or ten inches long and with one-half or three quarter inch links, tie them loosely together with wire, then attach to them a piece of the same kind of chain about ten feet long, and enough clothes line to reach from the top to the bottom of the flue. The bunched chain should then be dropped down at the top of the flue and pulled up and down several times, after which the fire will have been extinguished and all the soot will have dropped to the bottom. All openings to the flue at the bottom and below the roof should be closed up tightly in this case, also before dropping the chains, and they should not be opened until the soot has settled, after which it should be removed gradually and carefully so as to prevent it from flying about and causing unnecessary damage.

A blank pistol shot fired upward from the bottom of the flue in which there is fire or soot will loosen the soot and bring it down to the bottom, but this is not advisable as the falling soot is liable to scatter about.

A small fire cracker lighted and dropped down at the top of the flue is much better and less dangerous, but all openings to the flue below the roof should be closed when the latter method is restored to.

DEFECTIVE FLUES.

Defective flues are caused by some obstruction in the flue, or some defect in their construction that permits the smoke to issue from openings or crevices in the chimney wall; this generally occurs between the floors and ceilings of a building where the chimney wall has been left unplastered, or where the mortar between the bricks has become loose, or where wooden floor or roof beams have been permitted in violation of law to enter the chimney walls. Sometimes the ends of these beams will become charred from heat if the

flue takes fire and the same will spread across the floor between the beams. The ceilings in such cases generally becomes blackened around the ends of the beams and is a warning that a defect exists.

When a defect allows smoke to issue from between the bricks for lack of mortar or for want of terra cotta lining and there is doubt as to which chimney flue is defective, a piece of cardboard or tin placed across the top of the suspected flue and a piece of paper burnt in the stove connected to the same will show where the defect is, as the smoke finding no outlet above will issue from the defect we place.

A defective flue should always be reported and immediately remedied as they may cause loss of life and property by fire breaking out from them at any time.

GREASE, OIL, PAINT, TAR AND SIMILAR FIRES.

Grease, oil, paint, tar or similar liquids or substances when on fire has a tendency to spread the fire, and they will continue to burn on the top of water.

For an oil stove fire, ashes, either wet or dry, or wet cloths, should be placed around, and if possible, under the stove (without moving it) and the fire then smothered with wet cloths or bags. Any attempt to move an oil stove when it is on fire generally ends disastrously as the moving of it causes the oil to spill and spread the fire or explode the stove. It is especially dangerous to carry an oil stove on fire out into a hallway or other place where it will get a draught.

When the stove is only on fire and there is nothing near it to catch fire it is better to let it burn out gradually, protecting the floor with wet ashes, sand, dirt or wet bags or cloths.

In cases of oil fires of any kind where there is danger of the fire extending, a line or lines of hose should be stretched as an extra precaution.

When a pan of fat or grease is on fire in an oven it should be smothered with wet cloths, sand or ashes. If the flames are coming out of the oven door it should be shut until wet cloths or ashes are procured. Fire in an oven can often be smothered with its own smoke by simply closing the oven door for a few minutes, and dumping, withdrawing or smothering the fire in the grate.

When there is a pan of grease on fire in the oven of a gas range the gas should first be shut off and then the fire extinguished with wet rags, or ashes or as previously described.

Oil when on fire (gasoline, naphtha, benzine, and highly explosive oils excepted) will only burn on top or on its surface and is, therefore, better smothered with sand, ashes, dirt, wet bags or cloths. Steam is also an excellent extinguisher for oil fires if it can be blown over the surface of the oil on fire, and some oil plants are equipped with steam hose and a special steam pipe system for that purpose.

Some of the large oil plants like the Standard Oil Company at Bayonne, N. J., are equipped with an air pump engine. sand hose, and nozzle, through which sand is forced to a great distance and covers the surface of any oil that takes fire and extinguishes it quickly. This system has been tried at a fire in the plant of that company and proved a great success, and is without a doubt the best known extinguisher for oil fires.

Large oil tanks or reservoirs are often so arranged that in case of fire in or near one of them, the oil can be drawn off at the bottom to another tank.

When working at fires where there are cans, bottles, tanks, barrels, boxes, packages or other vessels containing gasoline, naphtha, benzine, kerosene, paint, varnish, turpentine, or other similar highly explosive oils, liquids, or substances, care should be taken not to upset them either with the force of a stream or otherwise, or allow fire to fall on or into them.

Firemen should remember that gasoline, naphtha, benzine, kerosene, turpentine, and similar quick burning or highly explosive oils may be met with in automobile garages, paint stores, drug houses, drug stores, dyeing and cleaning establishments, storage warehouses, or other places specially designated for their use, sale or storage.

Every spark should be extinguished where there has been a fire in any buildings or premises containing any of the mentioned oils or liquids.

AMMONIA, ACIDS, CHEMICALS, ETC.

When the fumes of ammonia, acid, sulphur, chemicals or similar liquids or substances are escaping in a building thorough ventilation should at once be established. On entering such buildings a wet sponge or wet cloth should be held over the mouth and nose, and if these cannot be obtained the hand should be placed over the mouth and the nose and inward breathing checked as much as possible.

Ammonia used for making ice will not burn, it will put out a fire when confined to tanks and heated by fire it will expand and explode.

The fumes of ammonia and acid are very severe and injurious to the lungs of firemen when encountered at fires or elsewhere and will overcome them quicker than anything else. For that reason care should be taken to thoroughly ventilate any building or premises where they are escaping before entering the same.

Spray streams of water directed about (not on) or outside of the building where there are ammonia or acid fumes will greatly lessen their deadly effect and scatter them; and should be resorted to in addition to the ventilation where there is life in danger or where the spray streams will not do unnecessary damage.

When acid in liquid form is spilled it should be covered with ashes, sand, dirt, chemical powder, salt, sawdust, or similar substances to soak it up. Water should not be used directly on the acid unless there is a fire which cannot be extinguished otherwise, as water only spreads the acid and makes it boil and fume a great deal more.

There are certain acids, chemicals, and substances that will take fire, or create dangerous and explosives gases or fumes when mixed with water; these are generally encountered in drug stores, drug houses, storage, warehouses, and ship fires, and great care should be taken to avoid putting water on anything that is not on fire when working at fires in this class of buildings or ships.

Calcium carbide, when wet is a substance that will create a dangerous and explosive gas and where possible water should not be put on the same or an open flame or light brought near it.

(Continued)

NUMBER OF FIRES REPORTED SHOWING VALUE OF PROPERTY LOSS.

During the Month of February, 1920.

(Exclusive of Philadelphia and Pittsburgh).

Counties.	No. of Fires	Loss
Adams,	1	$75
Allegheny,	34	190,133
Armstrong,	3	1,610
Beaver,	3	3,342
Bedford,	3	5,625
Berks,	20	33,353
Blair,	21	31,53[illegible]
Bradford,	8	11,21[illegible]
Bucks,	6	9,420
Butler,	7	11,262
Cambria,	23	12,356
Cameron,	2	6,500
Carbon,	1	320
Centre,	4	417
Chester,	16	18,531
Clarion,	3	4,030
Clearfield,	4	2,800
Clinton,	2	30,075
Columbia,	9	24,200
Crawford,	7	4,775
Cumberland,	3	98,414
Dauphin,	4	16,244
Delaware,	13	7,347
Elk,	3	5,975
Erie,	36	34,390
Fayette,	11	125,415
Franklin,	1	750
Fulton,	2	460
Huntingdon,	2	2,379
Indiana,	9	19,252
Jefferson,	2	730
Juniata,	1	6,986
Lackawanna,	38	37,783
Lancaster,	6	2,780
Lawrence,	4	1,728
Lebanon,	3	1,550
Lehigh,	5	2,544
Luzerne,	23	55,968
Lycoming,	12	62,323
McKean,	5	5,852
Mercer,	15	4,198
Mifflin,	5	17,715
Montgomery,	10	13,140
Montour,	4	330
Northampton,	5	4,074
Northumberland,	3	3,215
Perry,	2	206
Potter,	2	1,185
Schuylkill,	18	105,264
Somerset,	5	6,878
Sullivan,	1	750
Susquehanna,	3	3,900
Tioga,	6	3,484
Venango,	12	1,552
Warren,	3	225
Washington,	22	40,776
Wayne,	3	2,884
Westmoreland,	17	13,691
Wyoming,	1	20
York,	8	30,222
Total,	505	$1,144,149

CLASS OF STRUCTURES DESTROYED OR DAMAGED BY FIRE.

During the Month of February, 1920.

(Exclusive of Philadelphia and Pittsburgh).

Structures.	No. of Fires	Loss
Apartment houses, boarding houses, dwellings,	282	$210,410
Automobiles,	10	3,252
Bank and office buildings,	3	1,151
Barns and stables (city and town),	7	14,200
Billiard, pool halls and bowling alleys,	1	1,500
Chapels and churches,	9	40,967
City and town halls, court houses,	1	10
Club, lodge and society rooms,	5	2,537
ELECTRIC RAILWAY PROPERTY:		
Passenger cars,	4	1,425
FARM PROPERTY:		
Farm crops in field,	1	420
Barns and stables,	10	53,280
Dwellings,	2	320
Outbuildings,	5	2,520
Garages,	13	41,633
Hotels,	7	725
MANUFACTURING AND INDUSTRIAL ESTABLISHMENTS:		
Bakeries,	3	160
Breweries,	1	2,000
Carpets and rugs,	1	6,500
Carriages and wagons,	1	20
Cleaning and dyeing,	1	1,700
Clothing (men's), linens, hats, caps, gloves,	1	20,700
Clothing (women's),	1	150
Cobblers,	1	1,400
Electric light and power plants,	1	2,275
Furnaces and stoves,	1	50
Glass,	1	5
Hosiery and knitting,	1	10
Ice cream,	1	10
Iron and steel, blast furnaces, foundries, etc.,	8	19,430
Laundries,	2	157
Lumber yards,	1	5,800
Machine and repair shops—variety,	1	66
Mattress and upholstery,	1	250
Miscellaneous,	8	101,067
Oil refineries and well works,	1	300
Packing houses,	1	34,361
Paints, varnishes and oils,	2	3,450
Planing mills,	1	30,000
Printing establishments,	2	16,600
Smoke houses,	2	272
Woolen mills,	1	3,100
MERCANTILE ESTABLISHMENTS:		
Barber shops,	1	500
Boots and shoes,	1	6,919
Confectionery and ice cream,	1	320
Department and general stores,	2	40,707
General stores (rural),	1	50
Groceries,	3	14,106
House furnishings,	2	55
Ladies' furnishings,	1	1,250

CLASS OF STRUCTURES DESTROYED OR DAMAGED BY FIRE—Concluded.

Structures.	No. of Fires	Loss
Men's furnishings,	2	233
Miscellaneous with dwelling occupancy,	41	247,154
Tailoring,	1	1,500
Undertaking,	1	22,950
Wholesale groceries, produce and fruit,	1	150
Miscellaneous,	6	81,254
Motorcycles,	16	70,267
Outbuildings (city and town),	2	400
RAILROAD (STEAM) PROPERTY:		
Passenger stations,	2	4,305
Shops,	2	3,075
Miscellaneous,	4	1,075
Schools—Public,	4	4,440
Telegraph and telephone exchanges,	1	10
Theatres and motion picture houses,	4	19,255
Total,	505	$1,144,149

CAUSE OF FIRE AND LOSS INCURRED.

During the Month of February, 1920.

(Exclusive of Philadelphia and Pittsburgh).

Cause.	No. of Fires	Loss.
Adjoining fires,	39	$107,606
Ashes (hot), careless disposal,	1	650
Backfire,	6	533
Candle, carelessness,	1	25
Chimney, flues, stacks, defective, overheated,	59	48,811
Cigars and cigarettes (lighted), discarded,	12	6,190
Clothing and curtains exposed to contact with stove, heating appliances and unprotected lights,	11	9,272
Coals (hot), falling from stove, furnace or fireplace,	9	10,496
Cooking appliances (electric, gas, alcohol), carelessly used,	1	95
Electric, flat and gas iron, carelessness,	2	72
Electric wiring, defective,	25	156,020
EXPLOSIONS:		
Alcohol, gas and oil lamps,	2	1,450
Alcohol, gas and oil stoves and heaters,	11	3,218
Charcoal dust, gas and coal dust,	9	11,064
Gas leak,	12	33,433
Gasoline, benzine, naptha, careless use and cleaning with, exposed to fire or unprotected lights,	2	4,600
Gasoline, pipe or storage leak,	1	2,000
Oils (inflammable), ignition,	1	300
Water back,	3	434
Fireplace, defective and overheated,	2	2,820
Furnaces, heaters, stoves and their pipes, defective or overheated,	62	102,964
Fumigation,	1	126
Grease ignition on stove,	4	475
Incendiary,	7	26,734
Lamps and lanterns, overturned,	3	1,370
Lightning (no report as to rods),	1	11
Matches, careless use and keeping,	12	5,450
Matches, children,	15	4,189
Matches (lighted), carelessly discarded,	5	148
Miscellaneous,	18	19,472
Ovens (bakery), defective or overheated,	1	5
Smoking in bed,	1	35
Smoking meats,	1	98
SPARKS,	5	2,409
Chimneys, flues, stacks, cupola,	20	548
Fireplace,	1	2,700
Forge and molten metal,	1	400
Locomotive,	1	78
Motors,	1	75
SPONTANEOUS COMBUSTION,	5	14,666
Thawing frozen pipes,	10	1,560
Torch carelessness,	2	6,900
Undetermined,	105	538,313
Woodwork and furniture exposed to contact with stove, heating appliances and unprotected lights,	14	16,834
Total,	505	$1,144,149

NUMBER OF INSPECTIONS MADE AND ORDERS ISSUED FOR REMOVAL OR REMEDYING OF FIRE HAZARDS.

During the Month of February, 1920.

Buildings Inspected.	Removal of or general repairs to dilapidated buildings.	Removal of rubbish and waste accumulation and regulating proper disposal thereof.	Regulating storage and handling of volatile inflammable liquids and explosives.	Repair chimney or stovepipe connections.	Repair roof.	Change or repair heating arrangement.	Install fire extinguishers—Sand or water buckets.	Miscellaneous—Not classified.	Orders not necessary.	Total number of orders.
Apartment houses, boarding houses, dwellings,	3	0	0	38	7	0	0	1	0	49
Barns and stables (city and town),	1	0	0	0	0	0	0	0	0	1
Club, lodge and society rooms,	0	0	0	1	1	0	0	1	0	3
Garages, private,	0	0	0	0	0	0	0	0	1	0
Garages, public,	1	0	0	0	0	0	0	0	3	1
MANUFACTURING AND INDUSTRIAL ESTABLISHMENTS:										
Automobiles and locomotives,	0	0	0	0	0	0	0	0	1	0
Carpenter shops,	0	1	0	1	1	1	0	0	0	4
Carriages and wagons,	0	0	0	0	0	0	0	0	1	0
Cigars and cigarettes,	0	0	0	0	0	0	0	1	0	1
Cleaning and dyeing,	0	1	0	0	0	1	0	0	0	2
Cobblers,	0	0	0	0	0	0	0	0	4	0
Crockery, earthenware, pottery,	0	0	0	0	0	0	0	0	1	0
Extract works,	0	0	0	0	0	0	0	0	1	0
Furnaces and stoves,	0	0	0	0	0	0	0	0	1	0
Laundries,	0	0	0	0	0	0	0	0	1	0
Leather goods and saddlery,	0	0	0	0	0	0	0	0	1	0
Lumber yards,	1	0	0	0	0	0	0	0	0	1
Miscellaneous,	0	0	0	0	0	0	0	0	1	0
Plumbing and tinning,	0	0	0	0	0	0	0	0	2	0
MERCANTILE ESTABLISHMENTS:										
Automobiles and accessories,	0	1	0	0	0	0	0	0	0	1
Barber shops,	0	0	0	0	0	0	0	0	2	0
Boots and shoes,	0	0	0	0	0	0	0	0	1	0
Confectionery and ice cream,	0	0	0	0	0	0	0	0	2	0
Department and general stores,	0	0	0	0	0	0	0	0	1	0
Drugs and medicines,	0	1	0	0	0	0	0	0	4	1
Groceries,	0	3	0	1	1	0	0	0	3	5
Hardware,	0	0	0	0	0	0	0	0	4	0
House furnishings,	0	0	0	0	0	0	1	1	5	2
Miscellaneous with dwelling occupancy,	2	1	0	0	1	0	0	0	0	4
Notions and novelties,	0	0	0	0	0	0	0	0	1	0
Restaurants,	0	1	0	0	0	0	0	0	1	1
Tailoring,	1	0	0	0	0	0	0	0	2	1
Tobacco and cigars,	0	1	0	0	0	0	0	0	1	1
Wholesale groceries, produce and fruit,	0	0	0	0	0	0	0	0	2	0
Miscellaneous,	0	1	0	0	0	0	0	0	4	1
Miscellaneous,	3	0	0	1	0	0	0	0	0	4
Outbuildings (city and town),	1	0	0	0	0	0	0	0	0	1
Tanks (inflammable oils and liquids),	0	0	3	0	0	0	0	0	0	3
Totals,	13	11	3	42	11	2	1	4	51	87

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MONTHLY BULLETIN

"MAKE PENNSYLVANIA FIREPROOF"

Department

OF

STATE POLICE

OF

Pennsylvania

BUREAU OF FIRE PROTECTION

OFFICE—ROOM 166
Capitol Building, Harrisburg, Pa.
C. M. WILHELM, Chief of Bureau

VOL. VII JUNE, 1920 No. 51

MAKING AMERICA HOMELESS

It has been estimated that every year in the United States something over two million dollars' worth of construction should be completed, in order to care for the normally increasing needs of the population.

During the past three years, however, only a small percentage of the required expenditure has been made, owing chiefly to the results of diverting labor and materials into war construction. In consequence, there is now a grievous shortage of homes and business structures, the scarcity of residences being even more serious, apparently, than that of business quarters.

In urging safer housing construction as a measure to remedy, in part, the existing shortage of dwellings, a bulletin of the Associated Metal Lath Manufacturers states that in 1918 there were only 20,000 new houses built, when there should have been twenty times that number, and that there were but 70,000 dwellings completed during 1919, according to estimates of the United States Housing Corporation. It is said further that in 1919 there were 24,872,051 families and 20,829,039 dwellings in the United States, while in 1920 the aggregate of families is placed at 25,319,443 as against 20,900,000 dwellings.

Obviously, it is highly important in the face of such a serious shortage to preserve existing homes intact. There were nearly 211,000 dwelling house fires in 1918, most of the loss being due to "defective chimneys and flues" and other preventable causes. It will be a difficult matter for the builders of the country to catch up with the demand for residences within several years, no matter how energetic they may be, for costs and labor conditions are extremely unfavorable.

It is significant that more than 40% of the dwelling house losses came from "strictly preventable" causes, as contrasted with 23% for losses on all classes of property. In other words, "strictly preventable" causes, which is another way of saying unmitigated and inexcusable human carelessness, constituted nearly twice as large a factor in "home" fires as in the average of all fires. Furthermore, such fires cost thousands of lives each year and sometimes result in general conflagrations.

What shall be said of the patriotism of people who neglect proper precautions under such conditions?—(Safeguarding America Against Fire.)

Vol. VII No. 51

Monthly Bulletin

Department

OF

STATE POLICE

OF

Pennsylvania

BUREAU OF FIRE PROTECTION

C. M. WILHELM, Chief of the Bureau

BULLETIN OF INFORMATION FOR THE PUBLIC

JUNE 1920

HARRISBURG, PA.:
1920.

HOWARD E. BUTZ
State Fire Marshal
and
Chief, Bureau of Fire Protection
October 22, 1918—April 30, 1920.

HOWARD E. BUTZ

STATE FIRE MARSHAL

and

CHIEF, BUREAU OF FIRE PROTECTION

Pennsylvania

In the removal by death of Howard E. Butz, which occurred on April 30, 1920, the Bureau of Fire Protection lost a most capable executive, whose death was a shock and loss to his many friends and to those privileged to serve with him.

Mr. Butz was born in South Whitehall Township, Lehigh County, on November 29, 1859, the son of Moses and Mrs. Butz, who died when he was very young. He was raised by his Uncle, the Rev. Edmund Butz, who helped him secure his education in the Public Schools and at the Central Pennsylvania College from which he graduated.

In 1880 Mr. Butz entered the office of Jones and Schmehl at Reading, where he read law, completing his studies with Petriken and McNeil in Huntingdon, and in 1882 was admitted to the bar. In July 1882, Mr. Butz became Editor of the Huntingdon Globe, which, in partnership with the late McKnight Williamson, was purchased. In 1884 Mr. Butz became the sole owner and continued actively as its Editor and Proprietor until his death.

Mr. Butz was chairman of the Republican County Committee from 1893 to 1900. In 1899 he was appointed by President McKinley, Postmaster of Huntingdon, succeeding S. E. Fleming. This position he held for four terms, turning the office over to the J. G. Lesher in March 1915. Soon after the opening of the great war, Mr. Butz was named a member of the District Exemption Board in the draft service and served in that capacity until appointed by Governor Martin G. Brumbaugh on October 22, 1918 to succeed the late G. Chal. Port as State Fire Marshal of Pennsylvania. When the Department of Fire Marshal was merged in the State Police Department under the name of Bureau of Fire Protection, Mr. Butz was named Chief.

Mr. Butz belonged to a number of fraternal organizations and clubs in which he took a deep interest.

Mr. Butz was ever gentle with, and considerate of others, which won for him the love and highest esteem of friends and employees, and his death is a personal loss to all who were privileged within his associations. Mr. Butz was laid to rest in the Riverside Cemetery, Huntingdon, May 3, 1920.

LESSONS IN FIRE FIGHTING

(Continued from May.)

LESSON NO. 11

GAS FIRES.

When gas is issuing from a main, gas pipe, meter, or elsewhere or takes fire, it should be shut off and the gas company notified immediately. If gas escaping from a pipe takes fire and the fire is endangering life and it cannot be shut off, the fire can be blown out with the force of a stream of water, and the gas pipe then plugged up with soap or a round piece of wood.

When a gas main in the street is leaking or on fire and it cannot be shut off immediately, it should be smothered with dirt or sand. If there is a large opening in the pipe or main and the gas is escaping from it freely or it is on fire and the flames shooting up into the air, it can be stopped readily by filling wet bags with dirt or sand and throwing them on top of the opening and then filling in with dirt around them.

In all cases of gas leaks whether there is fire or not and especially unmanageable gas leaks the gas company should be immediately notified.

Gas escaping from broken or defective pipes will often accumulate behind furrowed walls or other hollow spaces suddenly ignite from a spark of fire coming in contact with it, and cause considerable damage, and for that reason firemen should never leave any premises where gas is escaping until the same is stopped, plugged, shut off and made safe.

When the steel or metal plates of a gasometer or gas reservoir are hot from the heat of an adjacent fire, the air about the reservoir should be cooled with spraying streams of water and when it has been cooled the stream may be directed on the reservoir, but streams of water should not be put directly on a gas reservoir when the metal plates are extremely heated as they are liable to warp and cause the collapse of the reservoir.

Firemen should know how to shut off gas, water and electricity in buildings or elsewhere and know the general location of the shut-off cocks or switches of the same.

When water is escaping from a lead pipe and cannot be shut off in the regular way the lead pipe can be hammered flat with the back of an axe and the leak stopped in that manner.

When gas escaping from a small service pipe has taken fire it can generally be extinguished and the leak stopped without the use of a stream by tying or wrapping a wet rag or cloth around the end of a broom and forcing it over the leak, after which the pipe can be plugged.

ELECTRIC FIRES.

When electric wires, switchboards, cutout, controller, converters, or other electric equipment are on fire the first and best thing to do is to shut off or have shut off the electric current, then extinguish the fire with sand, chemical powder, ashes, dirt or similar substances. Water should not be used on electric fires unless there is danger of the fire extending.

In all cases of electric fires where there are electric wires, rails, etc., for carrying high tension electric current for power, heat, or lighting purposes, the brass or metal nozzle should not be taken hold of when directing a stream of water as water is an excellent conductor of electricity and a stream of water coming in contact with an electric current will cause a short circuit and charge the stream.

Water has a very damaging effect on electrical appliances, whether they are charged with electricity or not and should only be used where it is impossible to extinguish the fire by other means.

Water is especially damaging to telephone, telegraph or other electrical switchboard, electrical motors, dynamos, cutouts, controller, converters, electric wires and appliances.

The large telephone, telegraph and other electrical switchboards cost thousands of dollars to put up and can be entirely ruined by a single stream of water striking them.

Small electric fires can be often put out without danger by dampening the end of a broom, a piece of rolled news or other paper and striking the fire out with it.

When fire has full possession of any electric car, either on the surface, elevator, or subway systems, the streams from the nozzle

or pipe should be directed up to the top and about the ceiling of the car through doors or windows. This will extinguish any fire below without endangering the pipemen directing the stream from receiving an electric shock in case the current is on or is turned on.

When there is a slight fire in an electric surface car the railway employees generally extinguish it with sand which they carry on the car, but sometimes the contact shoe will jam with the power rail, cause a short circuit and large sheets of flame to shoot upward and make it necessary to cut out the car entirely from the power; this can be done readily with a six foot hook by reaching with it under the car and pulling out the lead wires that run from the shoe to the motor.

In all cases of dangerous electric fires where there is danger from electric shock, the company supplying the electric power or current should be immediately notified or shut off the same.

When an electric wire is short circuted on a tin roof or other place, a piece of dry wood should be placed under each side of it to keep it from coming in contact with the tin and setting fire to the roof. Care should also be taken when walking or placing ones hands on the roof in such cases as it may be charged with electricity; rubber boots should invariably be worn in such cases when walking on the roof.

Fires have been caused from electric light bulbs placed in show windows and surrounded by light silks, satins, or paper, by the heat of the bulbs setting fire to the materials.

Fires have been caused by a spark from an electric light carbon dropping on various materials placed in buildings under the lights, and firemen should warn occupants of buildings or premises of these dangers whenever they are found.

LUMBER YARDS.

When lumber is piled in cross pieces as in lumber yards and the same takes fire and the fire extends to the interior of the pile it is possible to reach a fire with a stream of water by directing it from a distance, as the water only enters the pile for a few inches. To properly extinguish such a fire the tip of the nozzle or pipe should be inserted at the side of the pile between the cross pieces and the stream directed in there.

A special pipe or nozzle with a flat tip should be used for lumber yard fires so that it can be inserted easily between the layers or cross pieces and when used should only be inserted at the sides and not at the front or rear of the pile.

In addition to the above, all piled lumber, which has been on fire, should be thoroughly overhauled to make sure that the fire has been entirely extinguished.

When lumber is piled without cross pieces the stream should be directed at the ends of the pile instead of the sides.

LIME AND CEMENT FIRES.

When lime sheds or lime barrels are on fire or wherever lime is stored or kept, water should be used sparingly and all such fires, where possible, should be extinguished with sand, dirt, or ashes or similar substances as water only tends to cause the lime to become heated, slack, burst the barrels and increase the fire.

Water should also be used sparingly where there are barrels or bags of cement stored or kept, as cement when once wet must be used immediately or it is useless.

AWNING FIRES.

When awnings are on fire, especially street awnings, extending over the sidewalk, firemen should be careful if pulling down the burnt parts with hooks not to strike or let their hooks fall against plate glass or other windows, as many of such windows are easily broken and very expensive to replace. A small stream of water is usually sufficient to extinguish awning fires.

AUTOMOBILE FIRES.

Automobile fires are generally caused by leakage of gasoline, kerosene, or other oil or fluid used for the purpose of propelling.

Chemical powder, sand, ashes, wet cloth, wet bags, liquid chemical extinguishers are the best with which to extinguish automobile fires when the fire is small, as they will smother it where water if used would have a tendency to scatter the oil or other liquid and spread the fire. If the fire is too great to extinguish with these substances water should be used, but the stream should be sprayed on the fire lightly at first for the reason that the cold water coming suddenly in contact with the hot tubes and cylinders or the gasoline or other tank would be liable to burst or explode them.

When spraying such fire with a stream the location of the gasoline or other tank used should be ascertained and the flame and fire driven from that direction; and after the machinery has been cooled the force of the stream may be increased and the fire extinguished entirely.

Care should be taken to extinguish every spark in such case as a small spark coming in contact with gasoline will explode it.

Steam from the thaw hose of an engine may be used to advantage for extinguishing a small automobile fire when there is nothing else at hand or no hydrant near by.

SAWDUST AND SHAVING CHUTE FIRES.

When there is a fire in sawdust or shaving chute water should be used sparingly and the sawdust or shavings removed gradually and wet down as removed.

Sawdust when on fire will burn or smoulder in the center when it is piled or in bags, and required thorough overhauling and wetting down to extinguish.

When necessary at such fires additional precaution should be taken by stretching lines of hose to protect the different floors or parts of the building.

BRUSH, GRASS AND WOOD FIRES.

Most brush, grass and wood fires can be beaten out with the branches of trees or the ends of brooms which have been dampened or wet with water.

FIRES MET WITH WHILE RESPONDING.

When a company is responding to or coming from an alarm and they meet with a fire they should stop and extinguish it or leave a fireman (or two as the case may require) with enough hose connected and stretched from a hydrant to the fire to extinguish. When extinguished the firemen should then proceed to the alarm fire or return to quarters, as the case may be.

Whenever it is necessary for a company to stop and extinguish such a fire the officer in charge of the company should always notify the operator at the headquarters of the fact, by telegraph signal, telephone, or otherwise.

LESSON NO. 12

DUTIES RELATIVE TO TRUCK COMPANIES.

The general duties of truck companies or truckmen at fires, is that of opening up or ventilating a building or part of a building, vessel or premises, the pulling down of ceilings and partitions, cutting up floors, the raising and placing of ladders, rescuing persons in danger, assisting engine companies with lines of hose and to overhaul generally.

The first and most important duty of truck companies or truckmen at a fire is, the saving of life when the same may be endangered. The next most important duty is that of quick opening up or ventilating.

By opening up or ventilating is meant the opening of windows, doors, flooring, skylights, roofs, iron shutters, iron gratings, vault, covers, deadlights, etc., with as little damage and as quickly as possible for the purpose of letting the heat, gases and smoke from a fire to escape, and allow the engine or engine companies present to enter the building, vessel or premises with their lines of hose, unhampered, or with less difficulty.

Quick ventilation at a fire or where heat, smoke fumes or gases are confined is very important when an engine company or companies are present and ready for work or there is other means with which to extinguish the fire, but no door, window or other part of a building, vessel, or premises in which there is a fire or which is on fire or endangered by fire should be opened when it would have a tendency to spread the fire or endanger life or when there is no engine company present or no water or other means with which to extinguish the fire.

By quickly ventilating a building truckmen make it much easier for pipemen when entering such places to advance with the pipe and extinguish the fire more quickly, and with a great deal less punishment from heat, smoke and gases and less damage by water.

Good ventilation often depends on the condition of the atmosphere or the direction of the wind at the time of the fire. On damp or foggy days or nights smoke will not rise as quickly as on a clear

day or night and, therefore, makes ventilation of a building or other place more difficult. The direction in which the wind is blowing has also to be considered when ventilating a building or premises and fighting a fire. At times smoke will roll in volumes out of the front of a building on fire, leaving the rear almost clear; at other times it will be just the reverse and again it will roll out in all directions.

Officers in charge of a fire should always take notice in which direction the wind and smoke are blowing and act accordingly in extinguishing the fire.

The following rules should invariably be adhered to when ventilating a building, vessel, or other place on fire:

Do not break doors or windows when they can be readily opened or removed without breaking them.

Do not break skylights when they can be readily opened or removed without breaking them.

Do not break deadlights, vault lights, etc., when they can be readily opened or removed without breaking them.

Do not do any more damage to a building, vessel, or other place or their contents or other property than is absolutely necessary in extinguishing the fire.

The Fire Department Patrolmen often render valuable service in saving lives and property at fires and they have often by promptness and good work prevented fire from extending; they should whenever possible, be given consideration and assistance at fires.

Hook and ladder trucks should never be brought in front of a building on fire or a hydrant, or so as to obstruct engine or hose companies from stretching in their lines of hose unless it is necessary to use their aerial ladders or for other necessary purposes.

When two truck companies respond to a fire on the first alarm, the first due or the first to arrive should invariably be directed to open up the doors or other parts of the building or place so that the engine company or companies present may enter quickly and get a stream of water on the fire. The second truck company due or second to arrive should invariably be directed to open up or ventilate the building above the fire. When life is in danger (the foregoing cannot always be adhered to; the reverse direction of the companies is sometimes necessary).

No set rules can be made for rescuing or saving life at fires as the circumstances of each case has to be considered, such as the location

of the person in danger, the progress of the fire and the number of firemen and means at hand with which to perform the rescue.

When fire is coming up an inside cellar stairway or from a floor or room into a hall or from any other place, the door should be shut and kept shut until the engine or hose company present have their line charged or until there is water or some other means provided with which to extinguish the fire. If the heat, smoke or flames coming up or out of the open door makes it impossible to approach the door and close it by hand it can be done with a hook or axe.

If the door is entirely off its hinges or the fire is burning through the door, and there is no immediate means with which to extinguish the fire, a door should immediately be taken off some other part of the building and placed against the opening or burning door and kept there with a hook or axe pressed against it until means with which is provided to extinguish the fire.

Fanlights over doors and other openings may be closed in a similar manner to prevent the fire from extending.

BUILDING VENTILATION.

When an entire building is charged with heat, smoke, fumes or gases, ventilation should be made at the highest point first, which is the roof, by opening roof door, scuttle, skylights, top floor windows on each floor as descent is made, or if necessary by cutting up a portion of the roof.

By opening up the top of the building first and then the windows as descent is made, it allows the greatest amount of heat, smoke, fumes, or gases to escape quickly and gives the engine, hose and other companies a better chance to enter the building from below and from being cut off by flames which would be the case if the building was ventilated from the lower floors first and then upward.

CELLAR AND SUB-CELLAR VENTILATION.

When only a cellar or sub-cellar of a building is charged with smoke, heat, fumes or gases, all outside cellar doors, rear windows, vault covers, exterior elevator hoists and all other exterior openings to the cellar or sub-cellar should be opened, and if necessary the dead-light removed so as to draw the heat, smoke, fumes or gases out of the cellar or sub-cellar, and as little as possible up through the building.

When holes are cut in floors for the purpose of increasing cellar or sub-cellar ventilation the holes should be cut as near to the open

windows as possible, so as to allow the heat, smoke, fumes or gases a free escape from the building.

The success of engine or hose companies when fighting in cellars or sub-cellars often depends on quick and good ventilation.

BUILDING, FLOOR AND ROOM VENTILATION—HOW TO OPEN THE WINDOWS.

When the ventilation of an entire building or the floor of a building is necessary the windows should be pulled all the way down from the top; this method permits a freer and quicker escape for the smoke, heat, fumes, or gases in such cases and gives firemen working on water towers a better chance to direct their streams up to the ceilings and further in on the floor.

When it is necessary to ventilate only a room or rooms the windows should be pulled down from the top three-quarter way and pushed up from the bottom one-quarter way or so as to meet the top sash after it has been pulled down.

LESSON NO. 13

ROOF VENTILATION.

When it is necessary to ventilate or open up the roof of any building the ventilation or opening up should, where possible, be made directly over the fire; that is, if the fire is traveling up a stairway, the roof door, or scuttle over the stairway should be opened or removed; if up a dump waiter, elevator, light, air or other shaft, the hood sky-light or other covering over the same should be opened up or removed. By so doing the fire, heat, smoke, fumes or gases are drawn straight upward instead of spreading through the various floors or rooms and endangering the occupants of the building who may be sleeping or awake.

When it is necessary to cut up a portion of a roof to ventilate any building or the top floor of any building, it should, where possible, be cut in squares or oblongs; by so doing it makes repairing easier

and much easier for the fire insurance men to spread their covers over the openings after the fire has been extinguished.

After a portion of the roof has been cut up for ventilation purposes, if necessary, the hanging ceiling should be pushed down with a hook or axe so as to give free ventilation.

When opening up a roof it is better to first cut the tin and roof boards with an axe and the tin cutter the size of the openings required before pulling up the boards with a hook. The reason for this is that one board cut and pulled up will often prevent the cutting of more by the smoke and heat coming through the opening and blinding the axemen.

The tin cutter or hook sharpened on the inside should be used to strip the tin off a roof if they are at hand and the tin should be removed first before the boards are cut.

Top floor windows can often be pushed down with a hook from the roof of a building when ventilation of that floor or its rooms are necessary.

When windows cannot be reached or opened from ladders or with hooks, or in any of the usual ways and ventilation is absolutely necessary, the ball and chain should be used, but when using the same, care should be taken not to strike persons at or inside windows, or let the ball fall on any one.

Fire on, or which has extended to the top floor of any building often gets into the hanging ceiling and hollow cornices and travels along in the same to the next building; this should be guarded against by opening up the cornices and roof if necessary on each side so as to draw the fire away from the other building or buildings.

When there is a water or other tank on the roof of any building or structure, firemen should never cut away any of its support or do anything that would cause the tank to topple over or fall, and when a tank is considered at all dangerous the firemen or persons on the floor or floors underneath should be notified of the fact.

When the tank is of wood, contains water, and is considered dangerous, if possible to do so, the water should be let out by opening the valve at the bottom, and if this cannot be done a hole should be bored in the side of the tank near the bottom and the water let out; an axe should never be used to cut a hole in a tank as the jarring caused by the chopping would be liable to cause the tank to fall, and besides the hole cut with an axe could not be repaired as readily as when bored with an auger.

A roof should never be stripped entirely of its roof boards, especially trussed roofs, as trusses, although able to stand an enormous weight, will not stand alone without being tied, braced, or fastened together, and when all bindings are removed they will topple over and fall.

HOW TO OPEN LOCKED DOORS.

Doors of various kinds and construction, such as hinged, sliding, folding, rolling, revolving and lift doors, and require different methods to open them when they are locked, bolted or fastened.

When it is necessary to open any doors at a fire they should be tried by hand first to ascertain if they are actually locked, bolted or fastened, as in many cases they are not.

When any hinged door is only locked or latched and is not bolted it can be opened readily by wedging the blade of an axe between the jam and the edge of the door near the lock, latch or fastening, and prying the tongue of the lock or latch away from the catch.

When a hinge door is both locked and bolted or double bolted it can be often easily removed by wedging it off its hinges in the following manner: Insert the blade of one axe behind the hinges and drive it in with the back of another axe; the same should be done with both or all hinges, after which the door can be easily pulled away from the hinges.

In many cases locked or bolted doors can be easily and readily removed without damage by simply removing the hinge pins by hand or with the back of an axe and then prying the door out at the hinged side with the blades of an axe.

The hinged edge of a locked or bolted door is its weakest fastening and when the hinges are on the inside or not exposed so that any of the foregoing methods cannot be used, the door can often be easily knocked off its hinges by striking it near the hinges with the back of an axe.

In many cases of double front doors or doors having glass panels, all that is necessary to open them is to wedge the blade of an axe between them near the lock or fastening and pry them apart; this can often be done without breaking the glass or the door. When there is weather strip covering the joint between the two doors it should be pried off first before wedging the doors apart.

To open large double sliding doors which are fastened together with a catch or bolt, the blade of one axe should be wedged between the doors just below the catch or bolt and the catch or bolt then knocked up or loosened with blade of another axe, hook or stock.

Single sliding doors are more difficult to open than double sliding doors. When this kind of door is to be opened and has wood panels, it is much easier to knock out a panel by which opening a man can enter and unlock or unbolt and open the door; that is, if the fire is not too close to the door.

The doors that slide from and into pocket partitions and commonly called folding doors, are in reality sliding doors, and when there is a fire in any of their pockets partitions and it is necessary to remove the folding doors the stop beads or strips that form a groove at the top and side of the arch should be pried off first; then the iron stop at the top in the center of the arch should be knocked off, after which the doors can be pulled out of their pockets and removed readily without damage.

The metal track on the floor at the bottom should not be raised; to do so will only bind the doors.

Revolving doors are so constructed that the arms or braces separating the doors can be dropped down by releasing or pressing a spring catch and the door then can be folded together.

Iron or metal doors when locked or bolted on the inside can very often be lifted off their hinges by prying them up at the bottom with the blade of an axe or the point of a hook; when this cannot be done the hinges can be broken with the back of an axe or the screws or bolts of hinges cut by wedging the cutting tool or blade of an axe beneath or behind the hinges and striking it with the back of another axe, after which the door can be removed readily.

The foregoing relative to iron doors is also applicable to all iron cellar or sidewalk doors which cannot be opened in the ordinary manner.

When there is time to produce a cutting tool and mall or sledge hammer, it should be used in place of axes for cutting screws or bolts on iron doors.

Padlocks on doors in most cases can be easily twisted off their fastenings by the use of a lock opener or broken by striking them with the back of an axe on the bottom of the lock using the fastening as a back stop.

In extreme cases it is sometimes necessary to use the door opener or battering ram or the butt of a ladder as a battering ram to open doors.

When iron doors, iron gratings, deadlights or similar coverings are imbedded in sidewalks or other places of stone, concrete or cement they can be in many cases taken up without damage by inserting the blade of an axe or cutting tool between the edge, of the grating or deadlight and the cement, stone, or concrete in which it is imbedded and by forcing the edge of an axe between them by striking with the back of an axe and then striking the flat side of the inserted axe. This will generally force the deadlight or grating loose and it can be removed.

All iron or metal doors, iron gratings, deadlights or other similar obstacles which have been lossened from the sidewalk in front of a building for the purpose of ventilation or otherwise should be removed to one side so as not to hamper or obstruct firemen stretching lines of hose. All openings made, especially those in front of door ways, windows or passageways whether inside or outside of a building should be guarded or protected so as to prevent firemen or others from falling into them.

DOOR AND WINDOW FRAMES.

Door or window frames are made either plain or boxed and all that is necessary in most cases where they are plain and fire has burned around them is to remove the casing by prying them off with the blade of an axe or pull them off with a hook, leaving the jam and the rest of the frame or sashweight pocket exposed.

When fire has been burned around box casings or entered them the inside casings should be pried off and the box slit down on the side and removed so as to expose the pockets.

The lath or plaster wainscoting around windows or door frames should also be removed when fire has burned through or around them.

When fire has burned around window frames and the sash cord has been burned off and has dropped back into the sashweight pockets on the side of the frame, the pocket pieces should be unscrewed or the casing taken off and the ends of the sash cord examined, as often in such cases the ends of the sash cord take fire and smoulder, and if there are any shavings in the pockets they are liable to take fire.

LESSON NO. 14

HOW TO OPEN LOCKED WINDOWS.

All windows should be opened without breaking when it is possible to do so, as falling glass is very dangerous and often has been the cause of severe injury to firemen and others.

To open latched or bolted windows from outside, without breaking the glass or sash, the blade of an axe should be inserted beneath the base of the lower sash and pried upward; this will loosen the screws away from the fastening and open the window without doing any material damage.

When windows are hung on pivots at the sides of the sash the blade of an axe should be inserted at the top and the sash pried inward from the outside. Such windows are easily opened by this method without any damage.

When windows are hung on pivots at the top and bottom of the sash the blade of an axe should be inserted at the side between the edge of the sash and the window frame and pried open from there.

When there is doubt about fire existing in a building and it cannot be entered from below without breaking the doors or doing considerable damage, a ladder should be raised to one of the upper floor windows, and the window pried open as previously described then entrance and examination of the premises can be made.

To remove the sash entirely from a window without breaking the glass or doing any damage, the stop beads on the side of the window frame should be pried off and the sash cords loosened or cut after which the sash can be removed easily and quickly and without damage.

HOW TO BREAK GLASS.

When it is absolutely necessary to break glass windows, glass doors, glass partitions, skylights, etc., the firemen breaking same should stand at one side and strike the glass with the flat side of a hook or axe. He should never stand in front and strike at it direct, as glass will often slide outward on the weapon used for breaking and cause severe injuries to the person breaking or standing by the same.

When the glass to be broken is on an upper floor, warning should be given to those beneath before breaking the same.

Heavy plate glass should never be broken when it is possible to avoid it, as it is very expensive to replace.

HOW TO OPEN IRON SHUTTERS.

Iron shutters, when latched or bolted on the inside, can be opened readily in many cases from outside by inserting the blade of an axe or the point of a hook under them and lifting them up on their hinges until the latch or catch loosens from the catch.

When lifting iron shutters up on their hinges for the purpose of opening them, whether working from fire escapes, ladders, or a roof, care should be taken if it is found necessary to lift them entirely off their hinges not to let them fall in the street where they would be liable to injure firemen below. Warnings should always be given the firemen and persons below in such cases, as iron shutters when let fall from a height often scale through the air for a considerable distance and would badly injure anyone they happen to strike.

Iron shutters when latched can sometimes be opened from the outside by striking the lower rivet below the latch fastening with the back of an axe; this causes the latch to jump off the catch and the shutter to fly open.

When iron shutters are set in a wall and cannot be opened by any of the foregoing methods, the blade of an axe should be inserted between them near the latch and the latch knocked or pushed up with another axe or piece of wood.

Iron shutters that are hung on the top floor windows of a building can sometimes be opened from the roof of the building by lifting or pulling them up or off their hinges with a hook; they can also be opened in extreme cases by breaking their hinges with the back of an axe.

When iron shutters are at a distance and cannot be reached or opened by any of the foregoing methods they can often be pulled open with a long hook or burst open with a battering ram or by using the butt end of a ladder as a battering ram.

The lock opener at times can also be used to advantage in opening iron shutters by prying between them and lifting up the latch or by lifting them off their hinges in the manner previously described with the blade of an axe.

When a building equipped with iron shutters is endangered by a fire from another building or structure, the iron shutter on the endangered building should be closed by beginning on a line with the fire and ascending upward until all are closed or protected by streams.

When an endangered building is not protected by iron shutters, it should be protected by streams.

The large iron rolling shutters to be found mostly on business houses are generally fastened on the outside with a padlock to an iron ring or staple placed in the sidewalk just below the window or door which they cover, and by simply knocking off the padlock with the back of an axe they can be pushed up on their rollers.

Iron rolling shutters when loosened or unlocked should be pushed up from their center at the bottom so as not to wedge them.

When iron rolling shutters are fastened at the bottom on the inside, the blade of an axe should be inserted and passed along the bottom of the shutter until the fastening is found, when the inserted axe should be struck with the back of another axe until the fastening is cut or broken, after which the shutter can be pushed up.

When it is impossible to open or remove iron rolling shutters by any of the previously described methods, square or oblong holes of the size required to enter, can be cut in them with the blade of an axe.

IRON BARS AND SCREENS.

Iron bars are of various construction and are put on windows and doors in various ways.

When iron bars are only let into or fastened to the wooden window frames they can be easily pried or knocked off with an axe, or the sill or other part of the window frame into which they are inserted can be split by using the blade of one axe as a wedge and the back of another with which to strike it and the bars removed.

When iron bars are set into stone, brick, concrete or cement, they can often be readily removed with an axe, mall or sledge hammer, by striking and bending each bar separately about eight inches from where they are set into the stone, brick, concrete or cement; this method drives the ends of the bars out of their settings and they can be removed easily.

All of the foregoing relating to iron bars, can be done either from the inside or outside, the fire permitting. When iron bars or iron

screens are on an upper window and require a ladder to stretch them they are more difficult to remove; in such cases two ladders should be raised close together and two or more firemen should ascend and work together in removing them as previously described.

When a person or persons are imprisoned behind iron bars on the upper floor of a building a line of hose should be run up one of the ladders and a stream of water kept in the window until the bars are removed or until it is no longer necessary or the person or persons so imprisoned are out of danger.

Persons caught or imprisoned behind iron barred or screened windows or doors should always be protected by a stream when their lives are in danger from fire; they should also be directed to keep below the stream and as near to the window or door and as close to the floor as possible.

Persons imprisoned behind iron barred or screened doors, or windows, can often work to better advantage in removing the bars or screens than firemen can on the outside; in such cases they should be directed what to do to assist in removing them and help in their own escape.

Cutting iron or steel bars with the blade of an axe or cutting tool, hack saw or pipe cutter, would take too long when bars must be removed quickly, and such methods are not recommended.

When iron bars are deeply imbedded in stone, brick, concrete, or cement window or stone sills, and they cannot be readily removed by any of the previously described methods the sills can often be easily broken with a sledge hammer or the back of an axe and entirely removed with the bars. Such sills can often be split by placing the sharp edge of the cutting tool along side the bars and striking with the back of an axe.

Iron bars placed anywhere and especially on upper floor windows can also be pulled out of their settings or away from their fastenings with a rope fastened to them at the center and pulled by a number of firemen.

The coarse iron wire screens which are sometimes placed on doors, or windows are generally fastened to the side of the frame with screws and can easily be pried off with the point of a hook or the blade of an axe. When they are let into the wood frame they can be cut out at the fastenings with an axe and then pulled away with a hook.

When the fire is too hot to approach a door or window covered with a wire screen a long hook should be used with which to pull the screen away.

IRON GATES, GRATINGS AND BUILDINGS.

Iron gates erected in front of entrances to stores or places of business are generally fastened on the inside by an iron or steel bar running from their center to a fastening in the stone door sill or sidewalk and there secured with a padlock. In such cases if possible to do so, a fireman should climb over the gates and knock off the padlock with the back of an axe, after which the gates can be readily opened.

When iron grating are fastened by a chain and padlocks, they can often be opened quickly by striking the chain with the back of an axe so as to break a connecting link or by breaking the padlock in like manner.

LESSON NO. 15

LADDERS, TOWERS, ETC.

All officers and firemen should thoroughly familiarize themselves with the care, handling, raising and operation of ladders, towers, etc., and also the various uses to which they may be put. They should also know their various sizes and heights they will reach to when properly raised and placed against a building, and also the number of firemen or persons that may be permitted on them with safety.

All ladders should be so placed and fastened on apparatus so that they can be easily and quickly removed and used.

All ladders should be so placed, raised and secured that they will not break or fall when the weight of the firemen or persons are on them.

Water towers, aerial or similar ladders which are secured to raise from the frames of trucks by water pressure, worm screws, steel springs, compressed air, endless chain or other means require demonstrative instruction to be properly understood.

The best method of raising movable ladders or ladders which can be moved from an apparatus in the hand over hand method, by both or all men working together so as to keep the ladder even as it ascends and the fireman or firemen on the butt keeping that end down and steady by placing both feet on the bottom round close to the sides and remaining in a squatting position with a firm hold of the third round from the butt. The hand over hand method should also be adhered to when lowering all movable ladders.

Movable ladders when about to be raised to the front of a building should invariably be taken lengthwise on the sidewalk and raised from there; by so doing engine or hose companies are less obstructed from stretching in their lines of hose.

Before raising any ladder or water tower, overhead wires should be looked for and avoided and where they interfere with the raising of the ladders lengthwise from the sidewalk they should be raised from across the sidewalk and street.

Movable ladders should never be raised butt end up and all large movable ladders after having been raised and placed should be immediately secured against falling by use of guy ropes or other special fastenings as described elsewhere.

All large movable extension ladders should be equipped with guards or clasps to keep the two sections together when the top section is being extended and also stops on each side at the proper distance from the top to prevent the top section from being extended too far and doubling up like a jack-knife.

Movable clasps or guides on extension ladders should always be put in place or clasped about both sections before the ladders are extended.

When hand cranks are used with which to extend ladders they should be held firmly in so as not to slip off the crank shafts, for in case they do and the lock is not on, the top section would come down suddenly and be liable to injure those at or holding the butt of the ladder.

When a rope is used for extending ladders it should not be allowed to become entangled or caught and after the extension has been raised to the required height and the ladder lock put on, the rope should also be made taut and fastened to the two bottom rounds of the lower section, thus making the upper section doubly secure.

In all cases where a ladder of any kind is raised and placed to a gable or slanting roof or structure a fireman should be left on the top of the roof or structure to hold the ladder from sliding, unless the same is secure.

When stationary iron or frame sheds are over a sidewalk and it is necessary to raise the ladders to windows above them, the ladders can be raised to the sheds on the street side and then pulled up on the roof of the shed and the top of the ladder slipped up along the front of the building to the required window, after which the butt of the ladder should be placed over a beam or so as not to break through the roof of the sheds and when necessary, holes should be cut in the roof of the shed to place butt end of the ladder in to keep it from slipping or a fireman should be placed at the butt for the same purpose.

The method of raising or sliding a ladder top end up alongside or against the wall of a building can also be done in alleys or where space is limited.

Another method to reach windows over sidewalks shed is to raise two ladders of the same height, one on each side of the shed and stretch a rope or ladder across from each. In this case the top end of the raised ladders should extend in windows to keep them from falling.

When it is necessary to rescue a number of persons or where difficulties are encountered in rescuing any person from a single window on the upper floor of a building two ladders should be raised to the window and placed alongside each other. By this method more assistance can be given to the person or persons in danger; if a stream of water is required a line of hose can be run up one of the ladders.

When a ladder is in danger of breaking from overweight a short ladder should be held under it as a prop or support and the butt of the bending ladder held firmly to keep it from slipping; the jumping net should also be held under the person or persons on the ladder until it is known that the ladder is secure.

When it is necessary to pull a ladder over the roof of any building it should first be raised and placed against the building that it is to be pulled over; then a rope should be lowered from the roof and the end fastened near the butt of the ladder with a bowling hitch after which the rope should be slipped through the ladder strap

hook which should be fastened just above the center of the ladder. The ladder can then be pulled up as far as the ladder strap, after which it can be bent down and pulled over on the roof by hand. A hose roller should be used to pass the rope over when hauling a ladder to the roof.

When a ladder strap is not at hand, the rope can be passed through the rounds of the ladder just above the center and the end fastened with the bowline hitch as above described.

When a stairway is burned away or in danger of falling, a ladder should be used as a substitute or as a support for the stairs.

Ladders should also be used as a temporary brace for walls that are in danger of falling outward or on another building or on persons in danger.

When ladders are placed against a building, the walls of which are in danger of falling, the ladders should be pulled out at the bottom and removed in that manner; when there is immediate danger a rope should be tied to the bottom round and the ladder pulled away.

When ascending or descending ladders or fire escapes firemen should always face the ladder or fire escape and direct others to do likewise; this is the safest and best method to ascend or descend ladders or fire escapes as a person can hold on to the round or side of the ladder or fire escape and place the ball of the foot on the rounds. To descend with the back to the ladder or fire escape causes the heels to catch in the rounds and apt to throw the person descending forward and with nothing to catch hold of to prevent falling.

When lowering ladders into cellars, sub-cellars, subways, areas, or other similar places, care should be taken to ascertain that they rest on a solid foundation before descent is made by them.

When a person or a number of persons are in great danger and about to drop or jump from the upper floor windows or roof of a building, the jumping net should be used in addition to ladders in effecting their escape.

When it is necessary to ventilate a building at the roof and the ladders at hand are of sufficient length to reach the roof, the ventilation can often be done much quicker and better by raising the ladder to the roof and ascending by it than by going up through the next building and having to open or break locked doors, especially at night time.

OTHER USE OF LADDERS.

Ladders may be used as battering rams to open large doors, iron shutters, or partitions that are out of reach by using the butt ends of ladder to strike with.

Ladders may be used as bridges from one building to another across air, light or other shafts, roofs, fire escapes, etc., by which fremen or persons may cross to escape from fire or other danger.

When a ladder is used as a bridge over a large span or when the ladder would be liable to bend and break if put on the flat, it should be put on its side and firmly held in that position while the firemen or persons are crossing it.

Ladders may be used for pushing over dangerous or loose walls from an adjoining building or the roof of an adjoining building.

Aerial ladders can be used as water towers, but it is not safe to extend them when so used.

HOOK LADDERS.

Hook ladders may be used to advantage as follows:

To get from one balcony, fire escape to another, when there are no connecting ladders.

To get over roofs from fire escapes when there are no ladders to the roof.

To get to the peak of gable roofs.

To get from one floor to another when used similar to scaling ladders.

When hooked ladders are used to get over roofs from fire escapes or as scaling ladders, one or more firemen should hold the ladder while the other ascends or descends.

SCALING LADDERS.

Climbing and rescuing persons by use of scaling ladders and ropes must be taught and practiced to be properly understood.

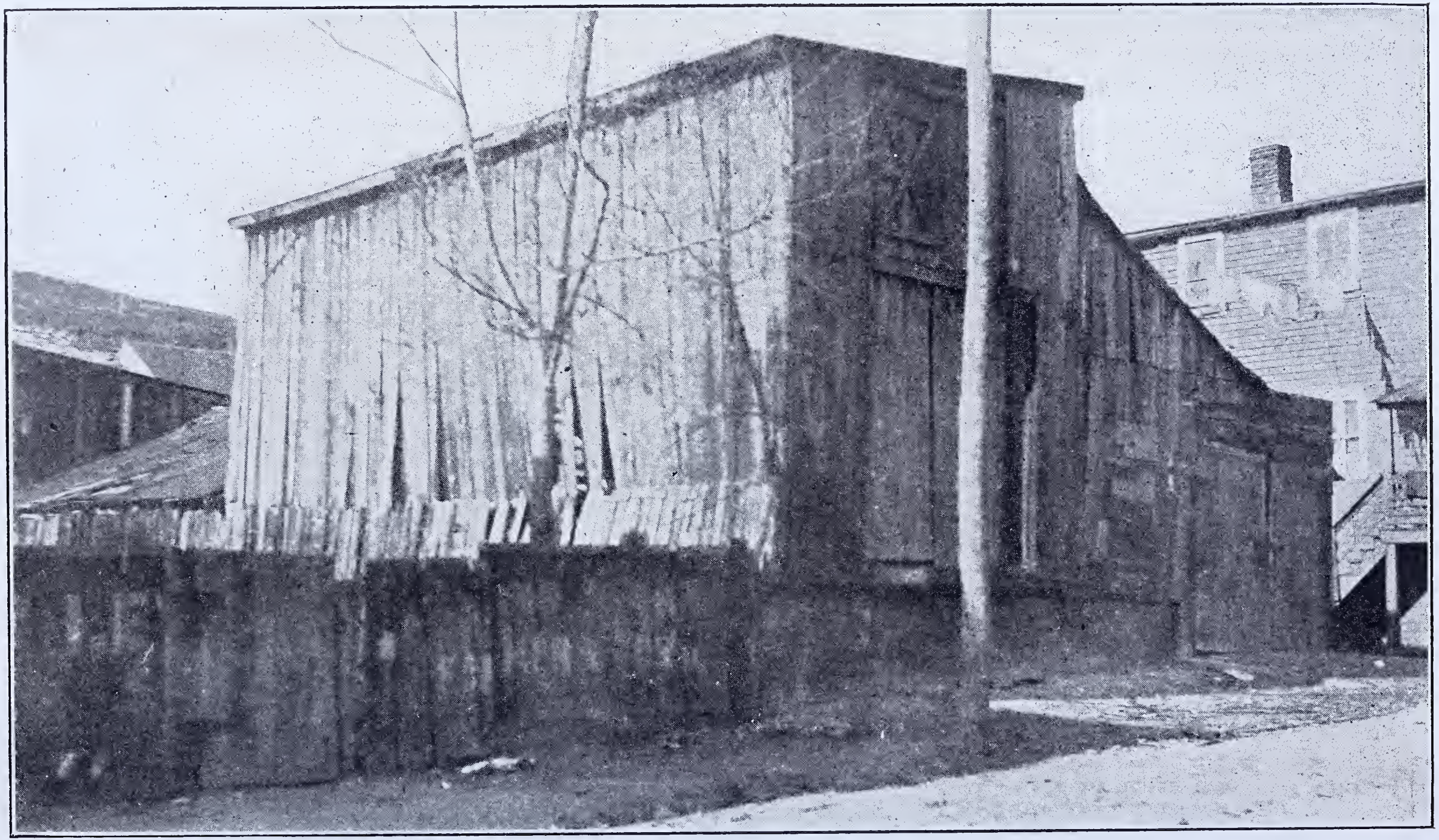
NUMBER OF FIRES REPORTED SHOWING VALUE OF PROPERTY LOSS.

During the Month of March, 1920.

(Exclusive of Pittsburgh and Philadelphia.)

Counties.	Number of Fires.	Loss.
Allegheny,	36	$36,872
Armstrong,	13	22,682
Beaver,	3	3,200
Bedford,	8	1,419
Berks,	22	33,067
Blair,	26	5,862
Bradford,	2	3,320
Bucks,	3	689
Butler,	6	41,111
Cambria,	9	5,177
Cameron,	4	6,242
Carbon,	3	16,915
Centre,	6	44,079
Chester,	13	40,782
Clarion,	4	1,791
Clearfield,	18	173,798
Clinton,	4	2,080
Columbia,	3	7,422
Crawford,	12	14,206
Cumberland,	7	8,783
Dauphin,	4	3,710
Delaware,	13	96,272
Erie,	57	38,869
Fayette,	12	27,764
Franklin,	5	11,550
Fulton,	1	1,300
Huntingdon,	5	5,796
Indiana,	2	7,870
Jefferson,	2	6,988
Juniata,	1	30
Lackawanna,	28	45,630
Lancaster,	8	33,339
Lawrence,	5	3,848
Lebanon,	5	26,263
Lehigh,	3	14,504
Luzerne,	34	114,664
Lycoming,	7	44,729
McKean,	8	7,516
Mercer,	16	19,424
Mifflin,	4	3,700
Monroe,	1	1,025
Montgomery,	20	97,556
Montour,	1	1,500
Northampton,	3	975
Northumberland,	3	640
Perry,	4	3,626
Pike,	2	5,650
Potter,	2	4,285
Schuylkill,	11	9,167
Snyder,	1	450
Somerset,	3	3,314
Sullivan,	1	200
Susquehanna,	3	5,962
Tioga,	7	17,819
Venango,	8	13,111
Warren,	4	2,417
Washington,	28	26,528
Wayne,	2	3,625
Westmoreland,	14	15,227
Wyoming,	2	735
York,	12	152,705
Total,	554	$1,349,780

Conditions that exist in all parts of the State, the result of carelessness and neglect; civic pride should invite the remedying of such conditions as a means of reducing the fire loss, either by repairing or the demolition of building, and the removal of material.



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CLASS OF STRUCTURES DESTROYED OR DAMAGED BY FIRE.

During the Month of March, 1920.

(Exclusive of Philadelphia and Pittsburgh.)

Structures.	Number of Fires.	Loss.
Academies, boarding houses, schools, colleges, universities,	2	$1,026
Amusement and pleasure resorts,	1	4,001
Apartment houses, boarding houses, dwellings,	288	292,915
Armories,	1	15
Automobiles,	8	1,931
Bank and office buildings,	4	1,761
Barns and stables (city and town),	27	33,408
Billiard (pool) halls and bowling alleys,	1	205
Bridges,	1	10
Chapels and churches,	5	2,600
City and town halls, court houses,	1	1,451
Club, lodge and society rooms,	1	7,000
Cottages, club houses and season homes,	1	1,400
Farm crops in field,	4	3,003
Farm Property:		
Barns and stables,	32	130,372
Dwellings,	3	7,246
Outbuildings,	1	400
Miscellaneous—Fences, timber, orchards, etc.,	1	50
Fences,	3	30
Fire department houses,	1	3,800
Garages—Private,	10	15,321
Garages—Public,	1	9,500
Greenhouses and hothouses (commercial),	1	300
Hospitals and sanitariums,	1	300
Hotels,	12	52,988
Manufacturing and Industrial Establishments:		
Abbatoirs and slaughter houses,	2	1,325
Automobiles and locomotives,	1	7,500
Bakeries.	4	17,783
Blacksmith shops,	3	1,909
Brick and clay works,	2	500
Charcoal kilns and coke,	1	10,000
Cobblers,	1	25
Electric light and power plants,	1	400
Food products—Variety,	1	15
Glass,	1	500
Hosiery and knitting,	3	68,775
Iron and steel, blast furnaces, foundries, rolling mills,	3	10,320
Laundries,	1	1,500
Lumber yards,	1	25
Machine and repair shops—Variety,	1	80
Metal—Miscellaneous,	1	35
Miscellaneous,	4	15,944
Novelties,	1	5
Oil refineries and well works,	2	37,200
Paints, varnishes, oils,	1	10
Paper and pulp,	4	145,812
Printing establishments,	1	5
Rubber goods,	1	18
Saw mills,	2	7,955
Smoke houses,	2	250
Woolen mills,	1	83,461
Coal mining property,	1	2,563

CLASS OF STRUCTURES DESTROYED OR DAMAGED BY FIRE—Concluded.

Structures.	Number of Fires.	Loss.
Mercantile Establishments:		
Boots and shoes,	2	13,025
Confectionery and ice cream,	1	500
Department and general stores,	4	125,910
General stores (rural),	2	23,600
Groceries,	4	7,659
Hardware,	1	1,300
Leather goods and harness,	2	6,655
Meats,	1	1,582
Miscellaneous with dwelling occupancy,	23	88,659
Restaurants,	2	1,625
Miscellaneous,	15	40,308
Miscellaneous,	11	25,946
Motorcycles,	1	75
Outbuildings (city and town),	10	1,023
Poles—Telegraph and telephone,	1	2
Railroad (Steam) Property:		
Passenger stations,	2	50
Passenger rolling equipment,	1	10
Shops,	2	510
Tool houses, towers, water stations,	3	725
Miscellaneous,	2	825
Schools—Public,	1	800
Schools—Private,	2	23,021
Theatres and motion picture houses,	1	400
Warehouses and Storage:		
General storage,	2	622
Total,	554	$1,349,780

CAUSE OF FIRE AND LOSS INCURRED.

During the Month of March, 1920.

(Exclusive of Pittsburgh and Philadelphia.)

Cause.	Number of Fires.	Loss.
Adjoining fires,	43	$121,924
Ashes (hot)—Careless disposal,	5	1,065
Asphalt, tar, pitch, wax, etc., ignition of,	1	150
Backfire,	5	2,160
Candle carelessness,	1	10
Chimney, flues, stacks—Defective and overheated,	67	108,219
Cigars and cigarettes (lighted)—Carelessly discarded,	9	7,000
Clothing and curtains exposed to contact with stove, heating appliances, and unprotected lights,	7	1,721
Coals (hot)—Falling from stove, furnace or fireplace,	1	50
Cooking appliances (electric, gas, alcohol)—Carelessly used,	1	700
Electric wiring—Defective,	27	145,299
Explosions,	2	3,535
Alcohol, gas and oil lamps,	5	473
Alcohol, gas and oil stoves and heaters,	6	1,600
Boiler,	2	475
Charcoal dust, gas and coal gas,	5	8,527
Chemicals and acids,	1	146
Gas leak,	6	4,908
Gasoline, benzine, naphtha—Careless use and cleaning with, exposed to fire or unprotected lights,	3	3,955
Gasoline—Pipe or storage leak,	1	25
Fireplace—Defective and overheated,	2	1,421
Furnaces, heaters, stoves and their pipes—Defective or overheated,	29	43,014
Grease ignition on stove,	3	34,972
Incendiary,	16	30,750
Lamps and lanterns—Overturned,	4	1,769
Lightning (buildings rodded),	1	8,500
Lightning (no report as to rods),	1	1,451
Matches—Careless use and keeping,	10	7,479
Matches—Children,	16	5,814
Matches (lighted)—Carelessly discarded,	4	7,250
Miscellaneous,	9	2,990
Ovens (bakery)—Defective or overheated,	1	100
Smoking—Carelessness,	2	16,096
Smoking in bed,	2	181
Smoking meats,	5	2,262
Sparks,	9	17,115
Chimneys, flues, stacks, cupola,	44	24,732
Forge and molten metal,	2	90
Locomotive,	20	21,743
Motors,	1	500
Rubbish and brush burning,	17	9,504
Spontaneous combustion,	3	35,750
Torch carelessness,	2	146
Undetermined,	144	655,924
Woodwork and furniture exposed to contact with stove, heating appliances and unprotected lights,	9	8,295
Total,	554	$1,349,780

NUMBER OF INSPECTIONS MADE AND ORDERS ISSUED FOR REMOVAL OR REMEDYING OF FIRE HAZARDS.

During the Month of March, 1920.

(Exclusive of Pittsburgh and Philadelphia.)

Buildings Inspected.	Removal of or general repairs to dilapidated buildings.	Removal of rubbish and waste accumulation and regulating proper disposal thereof.	Regulating storage and handling of volatile inflammable liquids and explosives.	Repair chimney or stovepipe connections.	Repair roof.	Orders not necessary.	Total number of orders.
Apartment houses, boarding houses, dwellings,	11	0	0	72	58	1	141
Barns and stables (city and town),	7	0	0	0	2	0	9
Manufacturing and Industrial Establishments:							
Bakeries,	0	0	0	0	0	2	0
Confectionery,	0	0	0	0	0	1	0
Laundries,	1	0	0	0	0	1	1
Planing mills,	1	0	0	0	0	0	1
Miscellaneous,	1	0	0	0	0	1	1
Plumbing and tinning,	0	0	0	0	0	1	0
Mercantile Establishments:							
Automobile accessories,	0	0	0	0	0	1	0
Barber shops,	0	0	0	0	0	1	0
Boots and shoes,	0	0	0	0	0	9	0
Confectionery and ice cream,	0	0	0	0	0	4	0
Department and general stores,	0	0	0	0	0	4	0
Drugs and medicines,	0	0	0	0	0	7	0
Electrical and gas fixtures and supplies,	0	0	0	0	0	1	0
Groceries,	1	0	0	0	0	15	1
Hardware,	0	0	0	0	0	4	0
House furnishings,	0	0	0	0	0	4	0
Jewelry,	0	0	0	0	0	5	0
Ladies' furnishings,	0	0	0	0	0	2	0
Leather goods and harness,	0	0	0	0	0	1	0
Meats,	0	0	0	0	0	1	0
Men's furnishings,	0	0	0	0	0	7	0
Millinery,	0	0	0	0	0	4	0
Miscellaneous with dwelling occupancy,	1	0	0	1	0	0	2
Notions and novelties,	0	0	0	0	0	5	0
Photographers,	0	0	0	0	0	1	0
Restaurants,	0	0	0	0	0	5	0
Stationery and wall paper,	0	0	0	0	0	5	0
Tailoring,	0	0	0	0	0	3	0
Tobacco and cigars,	0	0	0	0	0	7	0
Miscellaneous,	0	0	0	0	0	12	0
Miscellaneous,	2	0	0	0	0	0	2
Outbuildings (city and town),	0	0	0	1	0	0	1
Schools—Public,	0	0	0	0	0	1	0
Tanks (inflammable oils and liquids),	1	0	34	0	0	0	35
Theatres and motion picture houses,	0	1	0	0	0	0	1
Totals,	26	1	34	74	60	116	195

BE CAREFUL FIRST

The late Theodore Roosevelt said, "Unless you make this country a good place for all to live in, it will not be a good place for any of us to live in." Every true American should take these words unto himself and bend every effort to forward the heart's desire of that Great Patriot, and "make America the best place on earth to live in." To attain this desired condition would require no extraordinary burden, but in effect would reduce to a considerable extent the burdens already endured by reason of failure to recognize the influence for betterment to be gained by the conservation of the necessities of life, which owing to willful waste through carelessness and disregard of the rights of others adds materially to the cost of living, producing animosities and discontent against the government and individuals, and to a great degree is responsible for the present turbulent condition of the entire Nation, resulting in strikes, riots, and disregard for law and order, a sad reflection on the intelligence of the people and the stability of our institutions.

There must come a change, and it must come from the people if the country is to continue a good place to live in. The fundamental necessity and of vast importance in influencing this change for improving conditions can be attained by more attention being given to the necessity for the preservation of the life, property, and resources of the people of the State by the enforcement and strict observance of laws enacted for the purpose of protection from loss by fire and the maintenance of law and order, by the elimination of carelessness and by curbing the action of the unruly or discontented whose thought of right and wrong have become perverted making them an undesirable element and a menace to the welfare.

Carelessness is a crime; it being responsible for the loss of millions of dollars worth of property and resources, not only affecting directly the owner of property or resources, but indirectly affecting thousands of others whose only fault lay in being unfortunately near to neighbor's property destroyed, or forced by circumstance to occupy the same premises as the careless one and are made to pay. Those also

remotely removed must bear a portion of the loss through the premiums collected for insurance, as it must be accepted, and it is a fact, that money obtained to pay losses by the insurance companies does not come from the companies, but comes directly out of the pockets of the policy holders, and the greater the losses, the more the tax must be increased to meet the demand for the payment of the cost of carelessness. Every man, woman and child in the Nation are made to bear a share of this indirect taxation; it merges with the cost of everything we eat, drink and wear. Every stock of goods is insured, the insurance is added to the cost of the goods, and when we buy a hat, a shoe, or a coat, we pay this insurance concealed in the price of the goods, and yet there are those who imagine that the insurance companies pay the average fire loss of $250,000,000 a year out of their surplus and capital. They don't, but you do, and will continue to do so just so long as you remain passive in the face of the known cause CARELESSNESS and continue indifferent and inactive in assuming the resposibility or assisting in a reduction of the fire losses by preventive measures. This must be done, for if present conditions are permitted to continue and add burden upon burden, this will soon not be a country fit to live in, for no country. however bountiful its resources, can stand forever a drain that is destroying the very essentials of life and adding cost upon cost without end. Whose duty is it, if not yours in checking the waste which is day by day destroying the essentials of life in this the reconstruction period when all material and economic waste must be heeded with grave thought and closer consideration?

The Bureau of Fire Protection urges the support of all citizens in its efforts to prevent fires and conserve resources, and earnestly requests information from all parts of the State as to what may be regarded as fire risks, uncared for or neglected by the proper authorities. Often such risks may not have attracted the attention of officials, or if known, correction neglected.

It is the duty of every citizen to report conditions of a menacing character to the community authorities who are charged with the work of correcting such conditions and upon failure of such authorities to order corrections and see that they are carried out, and if not attended to within a reasonable time, then to report direct to this Bureau. Dilapidated buildings situated close to good properties and other conditions, such as the accumulation of trash, waste, etc.,

are causes that call for immediate action in the fight against fire losses and there should be no delay in removal and destruction of all menacing conditions.

Let every day be a fire prevention day. Be constantly vigilant and alert to all possible or actual danger. Get busy; take up the question of fire prevention with your neighbors and urge them to also get busy in pushing along this most worthy and beneficial relief from danger and destruction.

Many losses of life and property can be entirely avoided or materially reduced by the selection of some special person in each community and placed in charge of a Fire Prevention Bureau to be permanently connected with the fire department, and who shall devote his entire time to fire prevention work; inducing citizens to use more care in and about buildings and premises; by keeping them in repair, by not permitting accumulations of fire breeding material, by the removal of all fire hazards and by educating the school children in fire prevention measures, directing particular attention to how to discover fire inviting defects in the construction of buildings, what constitutes defective electric wiring and its remedy; pointing out the danger of allowing accumulations of trash and waste in cellars, closets and attics, and the many other things that create fire hazards. Owners or tenants of buildings or premises should be persuaded to co-operate and either persuaded or by the application of local ordinance or state law, compelled to remedy all hazardous conditions in the interest of community welfare and a reduction of the fire losses.

The fighting of fires with its attendant dangers of loss of life will continue indefinitely, but it can be greatly reduced by the elimination of carelessness which is so largely responsible for the majority of fires that occur, and while it is important that each community should prepare with proper equipment to give battle when called upon, recognition should be given to the saving of life and property to be obtained by the preventing fires by precautionary measures. "Precaution which is the greatest of all fire prevention devices," should prevail as the one means in the fight against the great American stigma *fire*.

It is within the power of every community to effect this change by co-operation of the citizens, in adopting and carrying out fire prevention methods, both in the homes and places of business, by discarding carelessness from their daily habits and using every means

to bring about better understanding as to what a saving it would be to all citizens in reducing the fire loss—especially important at this, the reconstruction period when every resource, owing to the high cost of living should be conserved and carefulness in all things prevail.

MANY FIRES ARE CAUSED BY POORLY CONSTRUCTED CHIMNEYS

A summary of the various causes of fire, as given by State Fire Marshals of different states, shows that fire attributable to chimneys annually amount to from 10 to 26 per cent. of the total number, while in winter the percentage has reached as high as 50. This is significant when it is realized that most of these fires result from carelessness and could be avoided by proper attention.

In cities and towns with proper fire protection many fires are arrested without serious loss. It is evident, say specialists of the United States Department of Agriculture, that in rural districts, where there are no organized fire-fighting agencies, and where a fire usually results in a total loss, builders should give more attention to making the construction of all new chimneys as nearly fire-proof as possible.

With the establishment of peace, home building, which during the war was practically at a standstill, probably will receive a considerable stimulus. With the increased volume of work, building will be speeded up to the limit, and the fact that carelessness is bound to creep in should not be forgotten. This should be especially guarded against in fire hazards in chimney construction.

It is well known that the ordinary brick-and-mortar chimney as usually constructed is a source of danger. The constant heat from fire in time causes mortar to become dry, so that it falls out of place, leaving holes in the chimney. Such a condition usually goes unnoticed and is a constant source of danger from fire.

In constructing chimneys in buildings made of combustible material, the chimney should be built straight up from the ground and not

placed on a bracket, as is often the case, and should extend 2 feet or more above the peak when the chimney is in the center of the roof and 3 feet or more above the surface when on a flat or slanging roof. For proper draft, the minimum-sized opening for the flue should not be less than 64 square inches, while the walls should be at least 8 inches thick. At the base of each flue a clean-out should be provided, if possible. Whatever the material used in construction, it should be of good quality and laid in cement. Flue holes should never be filled with any inflammable material, but should be covered over in a secure manner with a metal flue stop.

The joists used to support the floors through which the chimney passes should not have their ends supported in the brick, as the chimney may settle, leaving at these points cracks through which fire may creep to the joists; furthermore, no other woodwork should come in contact with the chimney.

To obviate the fire hazard in brick chimneys it is suggested that a fire clay or terra cotta flue lining be used in their construction. The lining serves as a fire preventive, and gives a flue of uniform dimensions. The ordinary brick chimney will not do this. With lining the flue presents a smooth surface which leaves no place for soot to gather, thus eliminating to a great extent the possibility of chimney fires. The cost of such a lining for an ordinary two-story residence would be nominal, and the lining should prove a cheap and effective means of fire protection.

It is possible to use fire brick in place of the fire clay or terra-cotta tile, with the same result, but at greater cost. Fire brick are almost universally used in the construction of fireplaces for lining the fireback, sides, throat and wall of the ash pit.

Where the home is already equipped with the ordinary unlined brick chimney a close inspection should be given at short intervals to insure safety. If any breaks or cracks appear, they should be immediately repaired. It would also be well occasionally to clean the chimney, thus removing soot. This may be done with a wire or rope to which is fastened any object suitable for the purpose. A one-quarter-inch rope and a pair of old automobile tire chains used for this purpose will do the work satisfactorily.

—Fire Marshal Bulletin.

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MONTHLY BULLETIN

"MAKE PENNSYLVANIA FIREPROOF"

Department

OF

STATE POLICE

OF

Pennsylvania

BUREAU OF FIRE PROTECTION

OFFICE—ROOM 166
Capitol Building, Harrisburg, Pa.
C. M. WILHELM, Chief of Bureau

VOL. VII JULY, 1920 No. 52

FIRE PREVENTION.

You cannot be a good citizen and tolerate fire hazards on your premises, knowingly, and it is your duty to know!

Every fire is a blow at the nation's resources. Every dollar that goes up in smoke is lost!

Get rid of the rubber gas hose. Eliminate cob-webs and piles of debris. Screen open fires and grates. Keep matches in one place, out of reach of children.

Paint the gasoline can Red and keep it outdoors. Use no candles or matches in garret, closet or cellar. Oily mops and oily rags breed spontaneous combustion. Keep them in the air.

Watch your stoves, roofs and chimneys. All are fire breeders. Keep heating pipes and ashes away from wood, and do not stop up flue-holes with rags or paper. Use metal caps.

Be careful with furniture and stove polish and all cleaning liquids. Many contain dangerous explosive oils. Be careful with flatirons and electric devices. Remedy gas leaks, and make certain electric wires are in good condition.

Locate the nearest fire-alarm box and learn how to send in an alarm without delay. You may prevent a serious loss by having a good fire extinguisher in your home. Be sure that it is charged and ready for use.—Tennessee Bulletin.

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Monthly Bulletin

Department

OF

STATE POLICE

OF

Pennsylvania

BUREAU OF FIRE PROTECTION

C. M. WILHELM, Chief of the Bureau

BULLETIN OF INFORMATION FOR THE PUBLIC

JULY 1920

HARRISBURG, PA.:
1920.

LESSON NO. 16.

HOW TO CUT FLOORS, ETC.

Wood flooring should be cut alongside the beams to which it is nailed, at an angle of forty-five degrees of the grain; it is always better to cut out portions of flooring in straight lines, squares or oblong, as it makes repairing easier, but no more should be cut out than is absolutely necessary to extinguish the fire or make proper examination.

Double flooring should be cut in the same manner as single flooring, except that when cutting double flooring the top flooring should be cut and pulled up with a hook first.

A sharp axe should be used when cutting flooring and by cutting alongside a beam and at an angle of forty-five degrees of the grain, the flooring is less liable to spring and the cutting is easier.

Care should always be taken when cutting floor or roof boards with an axe that the blade of the axe hits the part intended to be cut and not the handle, as when hit in the latter manner the axe handle is liable to break off or pull out of the hand of the fireman.

Beams or timbers should never be cut through with an axe, especially in badly burning buildings; a saw should always be used as the jarring of an axe in cutting a beam in a badly burned building is liable to cause the collapse of a floor or the entire building.

When it is necessary to cut a beam or timber in any building, examination should be first made to see that it is not a support that would cause the floor to fall.

All heavy jarring of a badly burned building by chopping with an axe should be avoided.

When a floor is flooded with water, holes are sometimes cut in to allow the water to run off or to prevent the water from soaking into goods on the floor, or to relieve the weight caused thereby.

Holes should never be cut in a floor when flooded with water when the water can readily be swept down the stairs or pumped out of a window for the reason that to cut a hole in a flooded floor often allows the water to pour down through to the floor below and may cause damage.

When it is absolutely necessary to cut holes in a flooded floor they should invariably be made with a large auger and bored as close to the stair as possible, so that the water can be swept down the stairs into the street from the floor below.

Fire Insurance men generally attend to the relieving or removing of water from flooded floors and cellars and the same should be left to them when they are present.

When a cellar is flooded with water it can often be relieved of the same by breaking a sewer pipe in the cellar at the base or below the water line with an axe.

Mosaic, file, parquet or similar flooring should never be taken up when the fire can be gotten at quicker by pulling down the ceiling beneath. It is often much easier and better and causes less damage to pull down a piece of ceiling than to take up any of the above mentioned floors.

When it is absolutely necessary to take up any of the above kinds of flooring it can be best done with a pick, the blade of an axe or a flat shovel or the flat end of a lock opener.

When fire has gone up between a lath and plastered partition or other hollow space, the base boards of the same should be removed and also a part of the lath and plaster at the center and top; if the fire has extended higher, the base board and a piece of the floor adjacent to it, or, if necessary, a part of the lath and plaster of the partition above should be removed until the end of the fire is reached and extinguished.

Base boards can easily be removed by prying them off with the blade of an axe or the point of a hook, but when they extend back of some obstacle or obstruction and cannot be removed readily they should be cut with a sharp axe.

When fire has gone up only between two joists of a partition the lath and plaster can be broken off short on each side of the same with an axe or hook, thereby causing less damage than by pulling off the plaster the full length of the lath.

Brick or stone walls are generally furrowed out with furring strips which are lathed and plastered to keep away dampness. The hollow spaces thus made vary from three-quarters of an inch to two and three feet; fire often travels up these hollow spaces and leaps from floor to floor unseen and rapidly spreading throughout an entire building. To guard against this, or wherever there is doubt,

small openings should be made in these hollow spaces both above and below where a fire has entered or is suspected to have entered and an examination made as to whether the fire has extended upward or has dropped beneath.

Whenever doubt exists or indications warrant it, all hollow spaces above and beneath which there has been fire should be opened as they are liable to fill up with gases from fire or from leaky gas pipes, and which if ignited by a spark would cause considerable damage.

By feeling hollow spaces with the hand the location of a fire often can be ascertained, from the heat of the fire, when no outside indications exist.

When firemen are stripping partitions or other parts of a building from the burnt covering such as lath, plaster, boarding, etc., the posts, girders, columns, joists, uprights, studs, or other main supports should never be knocked out of place or removed, as the very weight and safety of a floor or building may depend on them for support. The proper way is to strip off only the burnt lath and plaster or other covering that may be necessary.

When the posts, or columns and girders of a burned out building are intact, straight and level, it is generally an indication that the building is safe to enter.

When fire has burned around pipe holes or tubes a small opening in the ceiling should be made around them and an examination made, as fire will often follow pipes and tubes for a considerable distance.

Corrugated iron or metal ceilings are often very difficult to remove with hooks, but are easily removed with an instrument specially made for that purpose.

After an opening has been made in a metal ceiling with a hook, the flat end of the instrument should be inserted to its full length into opening and then used as a pry against the floor by pulling down on the handle; this forces the hardest nailed ceilings off.

This instrument can also be used with similar effect on lath and plastered or boarded ceilings or partitions and will strip them much easier and quicker than a hook or axe.

When a fire has entered a hanging ceiling and it does not show from the floor below, it can be readily located and its extent ascertained by simply pulling away the lath and plaster or other covering just above the ceiling that surrounds the approach to the scuttle and

roof. From this point the entire interior of a hanging ceiling is exposed and any fire therein can be extinguished with a stream.

When firemen are pulling down ceilings, sidewalls, partitions or other parts of a building, they should avoid as much as possible pulling down gas pipes, water pipes, or electric wires or causing leaks or short circuits.

When firemen are pulling down cornices, ceilings, or any other burned or damaged material they should never stand directly under the same, or in such a position that the material to be pulled down will fall on them; they should always warn persons of the danger of passing under the same.

When it is necessary to remove a large roof cornice, it is better, where possible, to pull it over on the roof, and when not possible, it should be pulled down with a rope stretched to the opposite side of the street, and no person should be allowed to stand or pass under it while it is being pulled down.

Large roof cornices are generally fastened on the top by pieces of strap iron screwed or nailed to the roof boards and soldered to the cornice; on the bottom they are let into or anchored into the wall by similar pieces of strap iron. When roof cornices are fastened in this manner and pulled down, they generally take with them the whole front of the top wall of the building and for that reason should be pulled down from a distance or over on the roof.

Overhauling.

When pulling down burned material or overhauling the same, firemen should not scatter it about or put it on material or goods that have not been on fire; all burned material which is liable to cause damage to other property should be removed, but no article or material of value, such as clothing, etc., no matter how much burned or damaged, should be thrown out of a building, as all such articles and material are to be itemized by the Fire Insurance Companies and itemized in the loss and claim.

Firemen in throwing burned or other material out of a building should always give warning to those beneath before throwing out the same; they should also avoid throwing burned or other material on awnings or down elevator, light, air, dumb-waiter or other shafts where firemen are working or persons are liable to put out their heads, or so as to break windows, skylights, or cause injury or damage to persons or property.

Feathers or other similar material should never be thrown out of a building. They should be placed in a sheet or other such article and tied up so as to prevent being scattered about.

Wall Breaching.

Brick walls are breached at fires so that the center or body of the fire may be exposed and the streams of water sent to it direct.

Breaching the walls of a building that is on fire is generally done from the roof or floor of an adjoining building, but should never be done from any floor of an adjoining building, unless at least two lines of hose are stretched to the same, charged and ready to send their streams into the breach or opening as soon as it is made so as to prevent the fire from extending through it into the adjoining building.

Picks should be used with which to breach a brick wall and the bricks pried out as fast as they are loosened, but the opening should not be made too large at first if it is made from an adjoining floor, until the action of the fire is ascertained.

It is much easier to breach a brick wall through a chimney, as it is less solid there, owing to the flue, but it is not always advisable to do so as a chimney acts as a brace to a wall and breaching of wall must be done according to the circumstances in each case.

The battering ram is sometimes used for the purpose of breaching walls, but it is not advisable to use same, owing to the fact that the jarring caused by it is liable to collapse a floor, or an entire building, if the fire is of an extensive nature.

Plastered walls, partitions, etc., may also be breached where it is necessary to rescue persons from danger or to get a stream of water directly on the fire; in such cases it can be done with axes and hooks.

LESSON NO. 17.

UNMANAGEABLE FIRES.

The leveling and destroying of buildings by the use of explosives, is the last resort to stop the progress of a fire and should be done only by competent men who are familiar with the handling, use and nature of explosives, and only when the fire has become unmanageable or beyond control of the Fire Department, and the Chief or Acting Chief of that Department so orders or directs.

Explosives when used for the purpose of leveling or destroying buildings should be stored in an isolated place and of a kind that will not emit or throw off a black or combustible smoke when discharged, as such kinds would only tend to spread the fire or hamper the Sappers and Miners' Corps or firemen at work, by obstructing their view.

When explosives are used for leveling or destroying buildings or structures, they should be inserted or placed at the base of posts, columns, piers, or other inside supports of the building or structure to be leveled or destroyed and exploded there. By blowing down the inside supports of a building or structure, the collapse of the entire building or structure will generally follow.

Electricity should invariably be used for discharging explosives when the same is resorted to by the Corps of Sappers or Firemen, and only such buildings that are actually on fire or about to take fire should be leveled.

The object of leveling buildings in such cases is to get them down to where they can be easily reached with a stream of water.

When possible all fires in heating apparatus, boilers, stoves, etc., should be extinguished in all buildings before they are leveled or destroyed.

After the earthquake which caused the City of San Francisco to take fire the water system was rendered inoperative by the breaking of the water mains and the Fire Department made almost useless; black or giant powder was then brought into use by experienced persons, with hope of leveling buildings and arresting the progress of

the fire. This only increased the flames for wherever it was exploded it threw off a black smoke which ignited all wood and other combustible material with which it came in contact.

Stick dynamite and gun cotton were afterwards used with success and it was proved that smokeless explosives are a valuable aid with which to fight fires or stop its progress when it has gotten beyond control of the regular means of extinguishment.

It was also proved at the San Francisco fire that the buildings constructed with steel frames, riveted together on each floor, were better left standing and only that class of buildings built of frame, brick or stone and having wooden beams, posts, girders, columns, floors, partitions, etc., should be leveled or destroyed by the use of explosives.

Water and Combustibles.

They should know the effect fire has on the various materials and substances, and also the effect that water has on them, especially when they are on fire or heated.

When water is thrown on wrought or rolled iron or steel or similar metal that has been heated to a certain degree, it will cause such metal to warp and twist.

Water thrown on cast iron, cast steel or similar metal that has been heated to a certain degree, will cause such metal to crack and break.

Water thrown on granite, marble or similar stone that has been heated to a certain degree, will ordinarily cause such stone to burst.

Water thrown on brown or similar sand stone that has been heated to a certain degree will cause such stone to break and crumble.

Water thrown on bricks whether they are heated or not, will be to a degree absorbed by the bricks, and when thrown on brick walls when they are exceedingly hot, will cause the bricks to swell and the walls to crack or bulge.

Some bricks will absorb less water than others, according to their hardness or composition.

Taken as a whole, brick is the best known fireproof material that will stand the counter effects of fire, heat and water.

Water thrown on cotton, wool, jute, hemp, okum, rags, paper, hay, straw, or similar material when they are packed or baled and whether they are on fire or not will cause them to expand and increase in weight.

Hay, straw or paper when packed or baled will only burn on the outside when on fire and can be readily extinguished without opening the bales. When they are on fire and opened, it spreads the fire.

Cotton, jute, okum, rags, wool, hemp, sawdust and similar material when packed or baled, or in heaps, will often burn from outside towards the center and require to be opened and thoroughly overhauled to extinguish fire in them.

No baled material when on fire should be opened in the hold of a ship or in a building; it should be first wet down and then removed to the deck, dock, yard or street, as the case may be, and if necessary opened there. The opening of a single bale of such material when on fire in the hold of a ship or a building will often spread the fire to the other bales or material or drive everybody out by its smoke.

Water thrown on certain chemicals, acids, and substances will cause fire and create gases which will ignite or explode when brought in contact with flames. These chemicals, acids and substances are generally met with in drug stores, drug houses, storage warehouses or shipped and firemen should be particularly careful when working at fires in such places.

Calcium carbide when wet is one of the substances that will create a very explosive gas known as acetylene gas, and any open flame brought near same will cause an explosion.

Wood is one of the most combustible of materials and when thin or light is rapidly consumed by fire, but when heavy as in timbers, posts, girders, etc., will often burn for hours, resisting the counter effects of fire, heat and water much longer, and in a far superior manner to steel or iron where the latter is not encased in stone, bricks or concrete or other fire-proof material.

Water has no visible effect on wood except to swell it lightly. Water thrown on nytro-glycerine, gun-cotton, forcite, dynamite or similar explosive compounds when they are on fire will invariably cause an explosion. Such substances should invariably be allowed to burn out and the surrounding property protected.

When any of the foregoing substances are on fire confined so as the gases arising from combustion cannot escape quickly, an explosion will follow.

A sudden shock will often cause an explosion of any of the foregoing named substances, when they are on fire and sometimes when they are not on fire.

Salt water or sea water when thrown on silks, satins, furs, cotton, laces or similar materials will render them useless. It will also injure hose, rust or corrode iron and steel and most metals; and all hose, pumps, tubes, boilers, or other parts of an engine through which salt water has passed should be washed out thoroughly with fresh water.

Signal Code.

All firemen should know how alarms of fire are transmitted and received, and also how to use the Morse key when sending second or greater alarms, special calls or other signals that are used for Fire Department purposes. They should also have their fire alarm box keys with them no matter if they are on or off duty, and the keys should always be kept in good order and ready for immediate use.

They should also know the telephone numbers of the Fire, Police and Water Departments, and how to use the telephone to call either Department, in case of fire, riot, break in a water main, or for an ambulance or any necessary purpose.

All firemen should thoroughly familiarize themselves with the Fire Department signal code, assignments and instructions therein. The importance of correctly counting signals and alarms that are received cannot be too strongly impressed on the minds of the firemen.

It will sometimes occur that a second or greater alarm will be received from a different station than the first alarm and in such cases care should be taken to count the station and ascertain if the company is assigned before responding.

Every firemen should know the shortest and safest way to all alarm stations to which their company is assigned.

Every firemen should know how to tell by the automatic dials placed on the outside of buildings from which floor automatic alarms are sounded on their arrival at a building in response to an alarm.

Water Supply.

Firemen should be familiar with and know how the water supply system for extinguishing fires is arranged and distributed and what to do, and who to notify in case of any breakage of the system. They should also know how to properly open or close a hydrant and also know how the various hydrants are constructed and they should also learn not to waste water.

The care of fire hydrants is an important matter and should never be neglected, especially in winter.

Firemen should know the pumping capacity of the various size engines so as to be able to tell should it be necessary to siamese or work in relay when pumping water to elevations or long distance.

They should also know that poor or low pressure on a line or at the nozzle is sometimes caused by an insufficient water supply; the hydrant not being opened fully, stones, sand, or other substances or material in the barrel of the hydrant that chokes the water off at the nipple or enters the engine's strainers and chokes the water there, or stones, sand, etc., placed in the top of the barrel of a hydrant that prevents the turning of the valve stem.

Eels or other fish or substance, or material will sometimes lodge in the strainer or be forced through it and the pump valve and lodge in the tip of the nozzle and choke off a stream.

Firemen should know the location of every fire hydrant in the district to which they respond on first alarms and familiarize themselves with every building in the district. They should know the nature of the contents of each building and also have in their company quarters simple and plain drawings showing the location of all entrances, exits, stairways, fire escapes, elevator, dumb waiter, air, light, or other shafts, trap doors or other openings, and also a brief description of each building and the nature of its contents.

Firemen should remember that fire boats are a very important branch of the service, both for fires on the water and along piers, docks or shore front or near the same.

At large fires one large stream directed on the body of the fire is better than a dozen small streams scattered about, and where there is extreme heat or heat exceeding 2,200 degrees water itself will separate and burn. Therefore, small streams on large fires only tend to create a draught and make the fire burn with greater rapidity.

The faster water is pumped, discharged or forced through the hose the more resistance and back pressure it will encounter, which simply means the greater the pressure of water on a line of hose, the greater the resistance. Therefore, hose, nozzles, etc., should be regulated to suit the pressure or the pressure regulated to suit the hose or nozzle to get the best results.

Firemen should familiarize themselves with the construction of various kinds of heating apparatus, such as stoves, boilers, furnaces, etc., and also the flues, pipes, etc., leading to and from the same, so as to know what to do in cases of emergency or when any of them are liable to burst or explode to prevent the same.

LESSON NO. 18.

DANGERS TO BE AVOIDED.

When entering a building or any other place that is charged with smoke or in darkness, firemen should try to remember the direction by which they entered and the different doorways they passed through so as to know the exit in case of need.

If a line of hose is stretched when entering a building it can generally be followed out in case of necessity.

When entering a dark or smoke charged building or place, firemen should always feel their way in front of them so as to guard against falling or walking into well holes, trap doors, elevator shafts, hoistways or similar places. The same precaution should be taken when on a roof so as not to walk off the roof or into open shafts, and when there is snow on the roof care should be taken to avoid walking into skylight that is on a level with the roof and covered with snow.

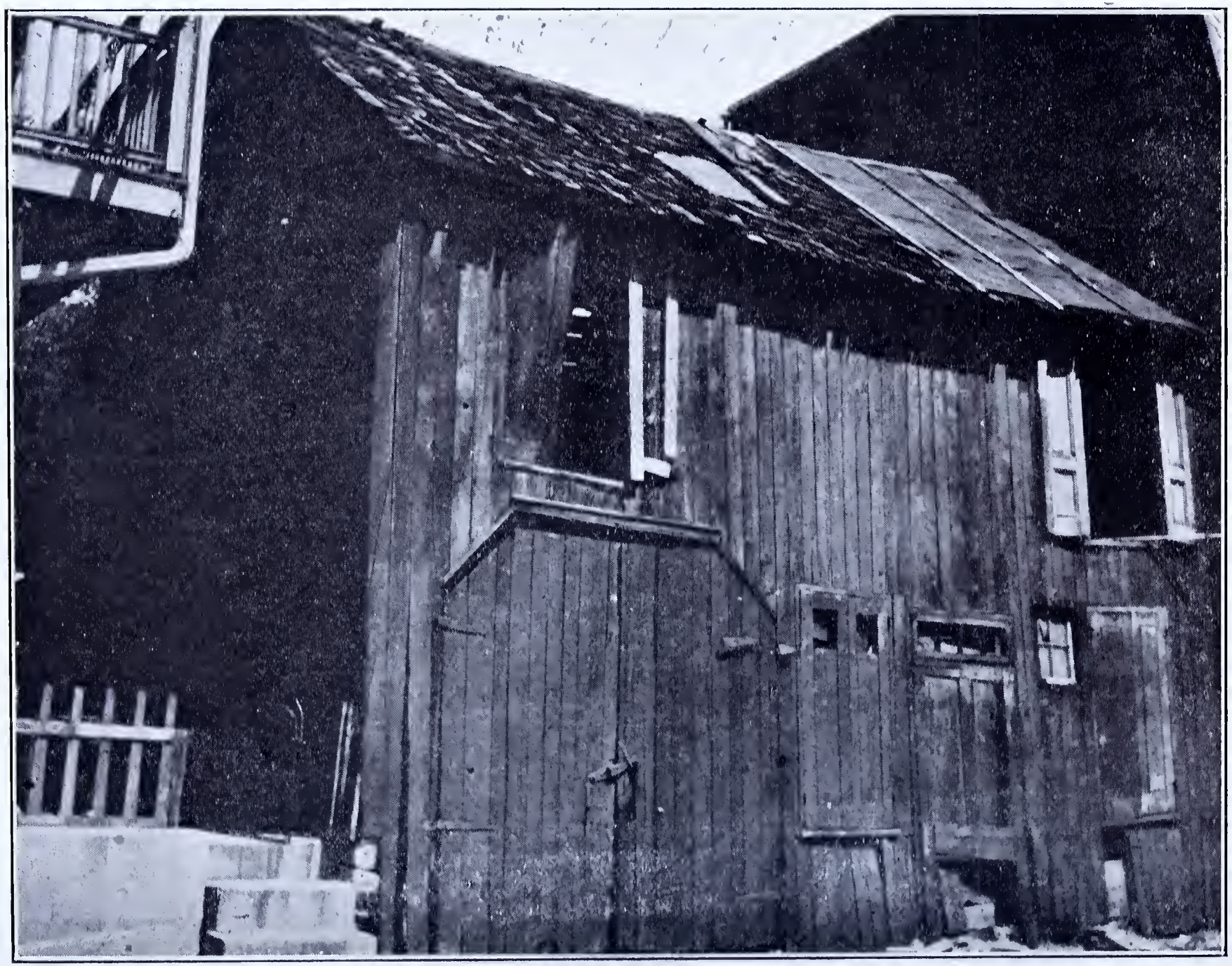
When a building or part of a building becomes heavily charged with smoke, heat and gases, back draughts will sometimes occur which will drive firemen working within, away from the fire or out of the building. These back draughts come from various causes and when firemen see, feel or suspect the coming of a back draught while working at a fire they should keep as close to the floor as possible, so as to avoid the full impact of it. Back draughts generally come suddenly and only last a few seconds. Some of their causes are as follows: Smoke, heat and gases accumulating in a building or part of a building arising rapidly and finding no outlet above, rush back to the first outlet below.

Gas accumulated from fire becoming suddenly ignited.

Opening of a window or door above the fire which causes an inward draught of air.

Opening of pipes or nozzles or streams directed from opposite direction.

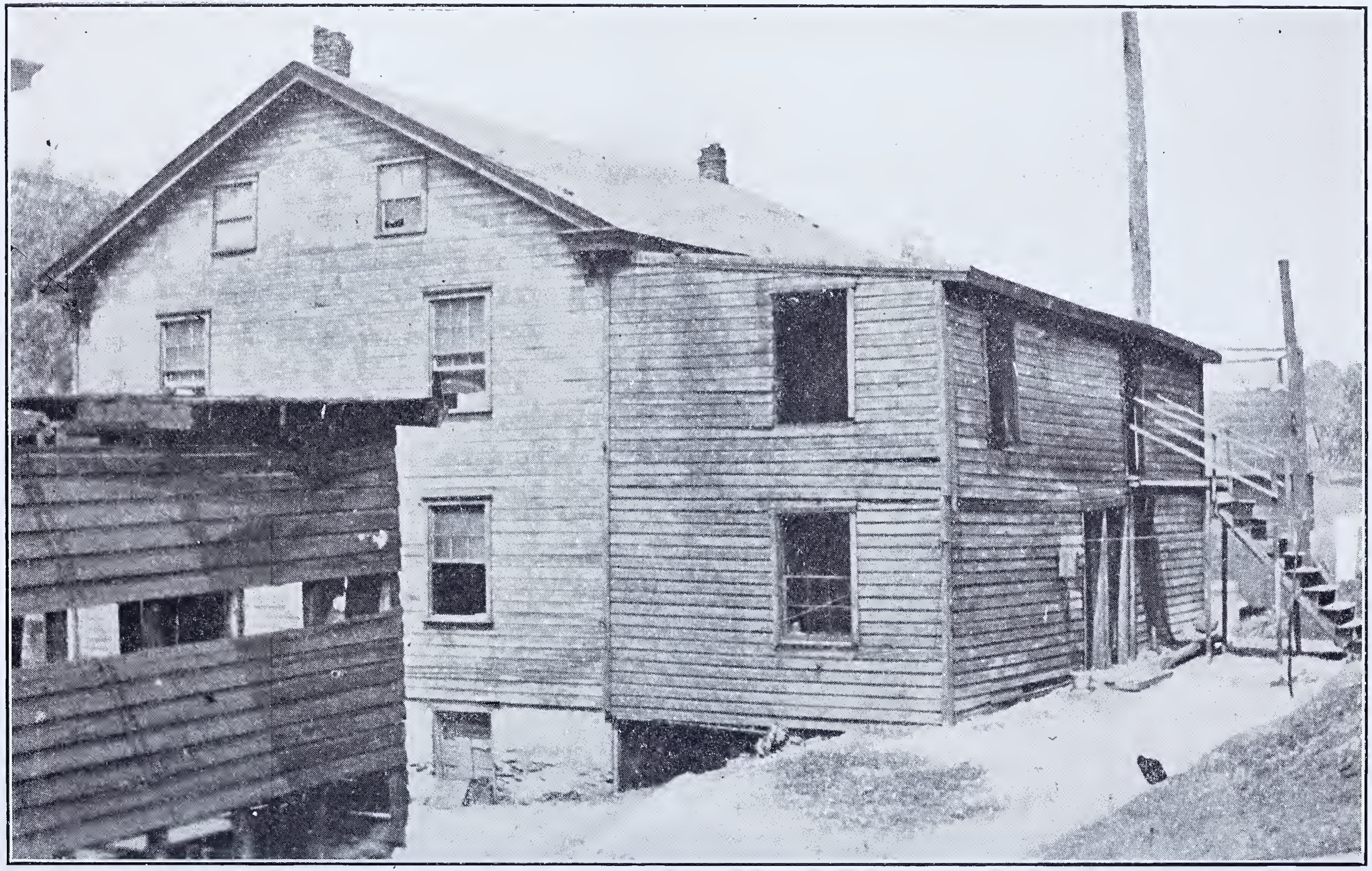
Firemen should avoid following too closely, one apparatus with another when proceeding to or returning from alarms of fire; there should be at least one hundred feet between each apparatus.



Dilapidated buildings used as a garage and dwellings.

Dilapidated buildings used as a garage and dwellings.

Fire hazards endangering lives and adjacent property. Should be torn down and old material removed as a preventive measure.



Fire hazards endangering lives and adjacent property. Should be torn down and old material removed as a preventive measure.

Firemen should avoid getting caught between the apparatus and the jam of the door when leaving or backing the apparatus into quarters.

Firemen should avoid getting caught or crushed between the apparatus and other vehicles or obstacles while going to or returning from alarms of fire by always keeping a sharp lookout for collisions, especially so when putting on their coats, hats or boots.

When firemen are working in courts or alleys at fires of any magnitude, they should provide means of escape beforehand if possible, by having the doors or windows of the building on the opposite of the court or alley from the fire so opened that they may readily enter in case the wall threatens to fall.

The officer in charge at the fire of any magnitude should always where possible, guard against firemen being injured by falling walls, by stationing competent officers or firemen on the roof of adjoining building or at such positions on the sidewalk, street or elsewhere that they will be able to detect any deviation of such walls from their plumb line or any other danger they may notice, and give warning to those in danger.

When explosions occur which throw walls, firemen cannot always receive warning in time, and for that reason they should be on the alert and provide a means of escape in case of any threatened danger.

Walls may be considered dangerous when cracks appear, when they lose their plumb line, sway to and fro, when the fire within a building renders it impossible to enter or when the posts, columns, girders, floor beams or other inside supports or ties have burned away, or are out of plumb or missing, or where the floors are sagged and the walls bulged out, or where the foundations are undermined by water, or when there is heavy machinery or other heavy articles, material or substances on badly burned floors.

When firemen are cutting out window frames, there is danger of the stone lintels above the frames or the stone sills below, becoming loosened and falling out.

When there is considerable baled material such as cotton, paper, wool, hay, straw, jute, okum, hemp, rags, etc., on badly burned floors and the same is soaked with water there is danger of the floors or building falling from overweight or from bulging of the walls by expansion of the water soaked material.

Firemen should avoid when possible, walking or standing under elevator or other shaft, when fire is in the upper part of a building, and especially when the fire is around the drum or cables of an elevator cage, as the cable will often snap from the heat of the fire and cause the cage to fall.

Firemen should avoid overcrowding on a badly burned stairway, especially when the stair supports or fastenings have been loosened or burned away; in such cases the ladder should be placed on top of the stairway and used, for ascending or descending.

Firemen should avoid holding the metal nozzle when directing a stream of water where there are electric wires or electric appliances that would be liable to cause an electric shock. In such cases the hose back of the nozzle should be taken hold of and if at hand, rubber gloves worn.

Firemen should avoid explosions of gas by not taking lanterns or open lights in or near places where gas is escaping or the same has accumulated.

Firemen should avoid spreading the legs apart when lifting a heavy weight, as by so doing rupture is often caused; when lifting a heavy weight, the feet should be placed near or close together.

Firemen should avoid ascending or descending ladders until they are properly placed and secured.

Firemen should change their wet clothing for dry ones as soon as possible after returning from an alarm of fire.

LESSON NO. 19.

THEATRE DETAILS.

When firemen are detailed to theatres or similar places they should be on the alert to guard against fire or panic and particularly to see that all exit doors, or gates open outward and that they are not locked or bolted when a number of persons are within the building. They should also see that all doors or other openings in the proscenium arch, both below and above the stage, are kept closed and that they are fire-proof; that all aisles, passage-ways, exits and stairways are free from obstruction of any kind that would cause people to fall in case of panic.

If any unmanageable fire should occur on or under the stage of any theatre or anywhere back to the proscenium arch the firemen present should immediately send in the fire alarm from the building fire alarm box, then see that the fire-proof curtain is quickly and properly lowered, all skylights over the stage opened by cutting or loosening the ropes attached to the same, that the alarm is also sent out from the nearest street fire alarm box and above all things, prevent panic.

The lowering of the fire-proof curtain and the opening of the skylights over the stage is very important at unmanageable stage fires, as the curtain prevents the flame, heat, smoke, gases from reaching the audience, and by opening the skylights they are drawn upward through the openings.

After the Iroquois Theater fire at Chicago, the Austrian Government had a model fire-proof theater built at Vienna; it was patterned after the usual theater building and was constructed of iron and concrete. About forty fire tests were made on the stage and old scenery soaked with kerosene was used; the results from the tests proved that the most effective means of reducing the danger from theater fires is to provide means of escape for the dangerous gases and smoke by opening the skylights or ventilators placed on the roof

over the stage. Such ventilators or skylights should be opened at the breaking out of the fire and should be done automatically or by hand, the more of them opened the more certain is the safety of the public and the less danger of the fire extending.

Asbestos curtains will stand considerable heat, but when heated by fire and struck with a stream of water they will crumble.

LESSON NO. 20.

THE CARE OF APPARATUS, TOOLS, IMPLEMENTS, ETC.

Every fire apparatus and its equipment, whether spare or regular, should be thoroughly and regularly examined for defects, especially after they have been used, and if any defects are found they should be remedied as soon as possible.

No parts of an apparatus, implements or tools thereon, such as movable bolts, pins, swivels, couplings, rods, ladder locks, springs, etc., that are necessary to be removed or withdrawn for the purpose of using or operating any apparatus or parts of an apparatus or implements should be painted, but should be kept clean and well oiled or greased so that they may be moved or withdrawn easily.

The axle arms, axles, wheels and springs of all apparatus should be given particular and frequent attention to guard against any flaws in the same, as on the running gear often depends the safety of firemen when proceeding to or returning from fire.

Hose should never be put in a hose tower where there are steam pipes. The steam will cause the hose to become brittle. Natural heat is the best with which to dry hose.

Hose should be placed loosely on hose wagon and not packed down; the folds should also be frequently changed. When hose is packed down on a wagon and not changed frequently the folds will cause a kink at the bends and often burst there or interfere with the pressure of water on a line.

Hose should not be put on a wagon when twisted or when wet, especially canvas or fabric hose, as it will mildew.

When hose is being put on a hose wagon or reel the couplings should be examined and the hose washed out in each coupling if required. The threads of all couplings should be thoroughly cleaned of dirt or sand and a slight coat of lubricating oil put on, but no oil should be allowed to touch the hose, as it will cause it to become brittle.

Cold and frost affect rubber and make it brittle. That is one of the reasons why more hose burst in the winter months than at any other time.

Hose should not be allowed to remain kinked when charged with water. All hose, pipes, nozzles, siamese or other connections should be examined and tried regularly to see if their threads are in good order and their swivels work easily.

Nozzles, pipes, couplings, etc., should not be allowed to fall, as a slight dent in them is liable to render them unfit for use, or in the case of pipes to throw a spray stream instead of a direct one.

NUMBER OF FIRES REPORTED SHOWING VALUE OF PROPERTY LOSS.

During the Month of April, 1920.
(Exclusive of Philadelphia and Pittsburgh.)

Counties.	No. of Fires.	Loss.
Adams,	1	$1,100
Allegheny,	22	36,517
Armstrong,	5	14,180
Beaver,	2	625
Bedford,	3	1,160
Berks,	17	21,811
Blair,	23	3,015
Bradford,	4	10,120
Bucks,	6	15,907
Butler,	5	8,974
Cambria,	12	38,874
Cameron,	2	1,400
Carbon,	2	525
Centre,	1	2,777
Chester,	14	7,861
Clarion,	3	3,992
Clearfield,	5	23,125
Clinton,	1	750
Columbia,	3	6,946
Crawford,	8	26,053
Cumberland,	6	750
Dauphin,	14	21,090
Delaware,	13	70,543
Erie,	27	46,143
Fayette,	4	38,000
Franklin,	6	6,770
Fulton,	1	400
Huntingdon,	3	322
Indiana,	2	1,640
Jefferson,	1	50
Juniata,	1	2,300
Lackawanna,	23	25,198
Lancaster,	13	17,856
Lawrence,	5	2,280
Lebanon,	1	900
Lehigh,	2	5,398
Luzerne,	24	36,940
Lycoming,	8	9,238
McKean,	12	52,899
Mifflin,	1	100
Monroe,	2	1,775
Montgomery,	47	85,515
Northampton,	9	99,582
Northumberland,	3	3,195
Perry,	1	50
Pike,	1	4
Potter,	1	100
Schuylkill,	10	51,074
Snyder,	4	2,798
Somerset,	5	7,891
Susquehanna,	2	2,200
Tioga,	2	5,300
Venango,	3	2,650
Warren,	2	1,750
Washington,	16	9,399
Wayne,	7	32,622
Westmoreland,	14	33,957
York,	9	584
Total,	444	$904,975

CLASS OF STRUCTURES DESTROYED OR DAMAGED BY FIRE.

During the Month of April, 1920.
(Exclusive of Philadelphia and Pittsburgh.)

Structures.	No. of Fires.	Loss.
Academies, boarding houses, schools, colleges, universities,	3	$4,705
Apartment houses, boarding houses, dwellings,	240	166,120
Automobiles,	10	2,818
Bank and office buildings,	2	1,450
Barns and stables (city and town),	12	6,900
Billiard (pool) halls and bowling alleys,	1	25
Chapels and churches,	1	35,000
Club, lodge and society rooms,	3	11,450
Electric Railway Property:		
Passenger cars,	1	75
Farm crops in field,	1	24
Farm Property:		
Barns and stables,	36	102,924
Dwellings,	1	50
Implements and machinery,	1	7
Outbuildings,	4	3,675
Miscellaneous—Fences, timber, orchards, etc.,	1	4,000
Garages—private,	8	5,806
Garages—public,	3	2,445
Greenhouses and hothouses (commercial),	2	3,800
Hotels,	5	91,025
Jails, prisons, reform schools,	1	3,400
Manufacturing and Industrial Establishments:		
Aluminum,	1	5
Automobiles and locomotives,	1	3,600
Bakeries,	1	600
Breweries,	1	650
Carpenter shops,	2	28
Carriages and wagons,	1	28
Cigars and cigarettes,	1	14,500
Cleaning and dyeing,	1	104
Coal and wood yards,	1	45
Confectionery,	1	100
Creameries,	1	100
Electrical and gas goods and appliances,	2	8,350
Coal mining property,	1	4,339
Electric light and power plants,	1	6,000
Hardware and cutlery,	1	150
Ice,	1	600
Ice cream,	1	8,200
Iron and steel, blast furnaces, foundries, rolling mills,	1	76,500
Lumber yards,	2	30,665
Metal—miscellaneous,	1	5,500
Miscellaneous,	6	49,499
Oil refineries and well works,	1	5,000
Paints, varnishes, oils,	2	775
Paper and pulp,	1	37,000
Planing mills,	1	25,000
Printing establishments,	1	300
Saw mills,	3	6,775
Silk and lace,	1	125
Tanneries,	1	5,400
Mercantile Establishments:		
Department and general stores,	2	8,100
Drugs and medicines,	1	600
Groceries,	4	14,915
Hardware,	3	7,368
House furnishings,	2	9,175
Ladies' furnishings,	1	25
Meats,	1	3,600
Men's furnishings,	2	14,898
Miscellaneous with dwelling occupancy,	21	48,068

CLASS OF STRUCTURES DESTROYED OR DAMAGED BY FIRE—Continued.

During the Month of April, 1920.

(Exclusive of Philadelphia and Pittsburgh).

Structures.	No. of Fires.	Loss.
Restaurants,	1	3,500
Tailoring,	1	8,826
Undertaking,	1	21,500
Miscellaneous,	9	11,598
Miscellaneous,	2	665
Outbuildings (city and town),	4	135
Railroad (Steam) Property:		
Passenger stations,	1	700
Tool houses, towers, water stations,	1	400
Miscellaneous,	1	20
Round house,	1	6,760
Schools—public,	1	30
Tanks (inflammable oils and liquids),	2	630
Warehouses and Storage:		
General storage,	5	7,075
Tobacco,	1	1,400
Total,	444	$904,975

CAUSE OF FIRE AND LOSSES INCURRED.

During the Month of April, 1920.
(Exclusive of Philadelphia and Pittsburgh.)

Cause.	No. of Fires.	Loss.
Adjoining fires,	52	$72,850
Ashes (hot)—careless disposal,	1	25
Backfire,	2	515
Candle carelessness,	1	750
Chimney—flues—stacks—defective and overheated,	48	44,418
Cigars and cigarettes (lighted)—carelessly discarded,	6	4,470
Clothing and curtains exposed to contact with stove, heating appliances, and unprotected lights,	6	2,203
Coals (hot)—falling from stove, furnace or fire-place,	1	72
Electric, flat and gas iron carelessness,	2	4,374
Electric wiring—defective,	8	6,608
Explosions,	1	3,500
Alcohol—gas and oil lamps,	1	170
Alcohol—gas and oil stoves and heaters,	3	866
Charcoal dust, gas and coal gas,	1	3,400
Coal oil and kerosene—starting fires and filling lamps and lanterns,	1	4,500
Gas leak,	5	8,369
Gasoline—benzine—naphtha—careless use and cleaning with, exposed to fire or unprotected lights,	3	290
Gasoline—pipe or storage leak,	3	535
Oils (inflammable)—ignition,	1	150
Flat irons and bricks (heated)—uused for warming purpose in bed,	1	2,400
Furnaces, heaters, stoves and their pipes—defective or overheated,	22	13,447
Grease ignition on stove,	1	5
Incendiary,	7	11,125
Lamps and lanterns—overturned,	5	2,512
Lightning—(buildings not rodded),	7	14,014
Lightning—(no report as to rods),	7	7,682
Matches—careless use and keeping,	11	3,055
Matches—children,	11	7,727
Matches—(ligheed)—carelessly discarded,	4	732
Metals (hot) asphalt, tar, pitch, wax metal, etc.,—Ignition of,	1	50
Miscellaneous,	1	255
Ovens (bakery)—defective or overheated,	1	550
Smoking—carelessness,	4	5,560
Smoking in bed,	4	1,515
Smoking meats,	3	90
Sparks,	3	2,725
Chimneys, flues, stacks, cupola,	40	18,129
Fire-place,	1	200
Locomotive,	12	10,805
Motors,	2	425
Rubbish and brush burning,	6	323
Stationary engines, tractors, etc.,	1	420
Spontaneous combustion,	6	138,161
Torch carelessness,	1	30
Undetermined,	136	505,472
Total,	444	$904,975

NUMBER OF INSPECTIONS MADE AND ORDERS ISSUED FOR REMOVAL OR REMEDYING OF FIRE HAZARDS.

During the Month of April, 1920.
(Exclusive of Philadelphia and Pittsburgh.)

Buildings Inspected.	Removal of or general repairs to dilapidated buildings.	Removal of rubbish and waste accumulation and regulating proper disposal thereof.	Regulating storage and handling of volatile inflammable liquids and explosives.	Repair chimney or stovepipe connections.	Repair roof.	Install fire extinguishers—sand or water buckets.	Miscellaneous—not classified.	Orders not necessary.	Total number of orders.
Apartment houses, boarding houses, dwellings,	18	9	0	50	20	0	1	0	98
Barns and stables (city and town),	26	5	0	0	2	0	0	0	33
Billiard (pool) halls and bowling alleys,	1	0	0	0	0	0	0	0	1
Garages—private,	1	1	0	0	0	0	1	0	3
Hospitals and sanitariums,	0	1	0	0	1	1	0	0	3
Hotels,	2	0	0	0	0	0	0	0	2
Manufacturing and Industrial Establishments:									
Clothing (men's) linens, hats, caps, gloves,	0	1	0	0	0	0	0	0	1
Furniture,	1	1	0	0	0	0	0	0	2
Mercantile Establishments:									
Automobiles and accessories,	0	1	0	0	0	0	0	0	1
Boots and shoes,	0	2	0	0	0	0	0	0	2
Confectionery and ice cream,	0	1	0	0	0	0	0	0	1
Department and general stores,	0	1	0	0	0	0	0	1	1
Electrical and gas fixtures and supplies,	0	1	0	0	0	0	0	0	1
Florists,	0	1	0	0	0	0	0	0	1
Groceries,	0	2	0	0	0	0	0	0	2
Ladies furnishings,	0	1	0	0	0	0	0	0	1
Miscellaneous with dwelling occupancy,	0	0	0	1	1	0	0	0	2
Miscellaneous,	2	1	0	0	0	0	0	0	3
Miscellaneous,	3	1	0	0	0	0	0	0	4
Outbuildings (city and town),	6	2	0	0	0	0	0	0	8
Tanks (inflammable oils and liquids),	0	0	58	0	0	0	0	0	58
Total,	60	32	58	51	24	1	2	1	228

FIRE PREVENTION AS ESSENTIAL AS FIRE FIGHTING.

Efforts for the prevention of fires to be successful must be carried on twenty-four hours each day and three hundred and sixty-five days in each and every year. When this is done, the marked reduction in loss by fire will be most astonishing and the results so beneficial that never again will the disgraceful conditions, which now prevail, be permitted to destroy the thousands of dollars worth of property and resources which today constitute the American ash pile.

Demonstrations by parades and brass bands will not prevent fires; it takes other means to accomplish this end, and it can be done without costing a community a very great sum of money and will mean a great savings to the citizens of life and property, besides loss of employment which occurs when large stores or manufactories are destroyed.

The average citizen gives "waste by fire" absolutely no thought; they feel that the insurance companies have lots of money and can make good. Loss of human life of both citizen and firemen and the hazards incident thereto, should be a sufficient reason for every person to enlist in this one great movement for fire prevention and fire control. Let every mother, father, sister, brother, housewife and housemaid, school principal and teacher, take up the idea and become a member of the greatest beneficial organization in the world, one that will help the greatest number of people and do the greatest good that can be done for a community and each and every individual living therein. By joining this organization which will cost nothing for initiation fees, no dues, no loss of property, no loss of employment, life, comforts or money.

And what does it mean? Fire prevention means so much for the good of many.

1. Start with the children at home and in the school and teach them the dangers of fire, the harm and hardships it causes; teach them not to play with fire or the things that cause fire; reprimand them severely for handling matches or anything that pertains to fire; teach them to keep things in their proper places and not to cast waste paper or rubbish of any kind in the cellar or attic or any other

place, but have a receptacle provided for these things, and let them know it is for that purpose; it will not alone help to prevent fires, but will teach them to be good housekeepers and discipline them.

2. Advocate the avoidance of housing and collecting old things that are of no benefit or that will never be used; advise getting rid of them, not by building a bonfire in the back yard or alley, but by paying a few cents to have them hauled away. Bonfires in back yards and alleys breed fire fever and teach the children a form of excitement that may develop disaster; besides, sparks often secrete themselves in some old shack, fence or roof and may cause same to burn. Then, too, bonfires in back yards or alleys are excuses for incendiarism, and the incendiary puts the blame on the poor little bonfire in the rear.

3. Advise being careful in homes as to how matches, oils and inflammable articles are stored or handled. Advise the use of safety matches, and they to be kept in a metal box or can. Do not use paper matches; they are dangerous. Have a safety oil can and keep it in a safe place. Do not wait until dark to fill your oil lamps or oil stoves. *It pays better to send your gloves, ribbons and clothes to a dry cleaner than* to set a bad example at home by doing it yourself. You may be successful at it for a few times, but before long it will get you. Keep gasoline out of your house and you will not lose your life's earnings and perhaps cause loss of life.

4. Bad housekeeping plays a great part in starting fires. Bad housekeeping is not a rap on the housewife or housemaid alone, but includes the housewife, housemaid, janitors, porters, shop foremen, forelady, night watchman, principals of schools and the owners of large business houses. It is up to them all to practice good housekeeping, as it pays good interest on the cost of keeping cleaned up, besides it is a good advertisement to be a good housekeeper, and finding places and homes kept clean reflects credit on occupants if rubbish is kept out of them.

5. Further add to the cause of fire prevention in the building of homes and business houses, shops, etc., by first taking up the question of safety, not first having in mind cheapness. By building right the right insurance rate can be obtained and it will also cut down the number of fires. When building be sure to get an honest contractor who will not "skin" the job to increase profits. See that flues are built right, that no joists run into them and that they are well

pointed and slushed; do not cut the price of electric wiring too low if a good job is expected; play safe; specify a size heavier rather than a size too light in wire and supplies; do not ask the building inspector to pass upon or permit something that is wrong. Whether you expect to live in the house or expect to sell it, build right; it will pay to specify as far as possible fireproof materials; though the first cost may be a trifle higher, it will pay a good dividend on the difference invested by a reduction in insurance rates. Everything added to a house in the way of fireproofing and fire protection saves money by reducing the fire risk and the number of fires; it also saves loss of life, property and employment, and means real fire prevention.

In the erection of fire escapes be sure it is a fire escape and not a death trap; see to it that all fire escapes are right and safe. Be sure that all windows leading out to it have fire proof glass. If improvements can be made to your buildings so as to add to the safety of it and employees, have it done.

See that buildings are not overcrowded, whether it is a residence, store or warehouse. Do not put in mezanine floors when the buildings were not intended or built for them. Overloading of buildings and crowding of aisles are fire breeders and cause loss of life. Owners of theatres and moving pitcure houses have a part to play in this movement. Do not overload your show houses; keep your aisles and stairways free and your exits and doorways unobstructed. Do not allow the blockading in the rear, and stop over-selling of tickets, as you may be held responsible for the loss of life. Take warning and see that you are not violating the laws of safety to the public.

Owners and managers of five and ten cent stores have a duty to perform. Watch your aisles; do not make them too narrow or allow them to become congested. Watch the decorating of your stores and windows; do not decorate them with paper or combustible materials, and do not obstruct the view to the interior of store by piling goods in front of windows; keep window shades up so a passerby or the police can see if a fire does start. Keep basements and cellars free from rubbish. Have a bin for packing materials. Prohibit smoking in all stores or warehouses where inflammable materials are used, and to the men in general who smoke, be careful where you strike your matches, the kind of matches used. Watch where you throw your match and your cigar or cigarette butt; do not lay them on a

desk where there is paper, nor throw them in a waste paper basket, nor down the elevator shaft, nor out of the window of the office or home. Awnings are frequently set on fire from cigar and cigarette butts. Smokers, be careful. Fire endangers life, limb and property, and ever remember this as you light your smokes.

Stores that handle celluloid articles in the various branches, including hat trimmings, combs, hair pins, buttons, etc., be especially careful as to the storing of same, as it is adding to the fire hazard. The purchase of such articles is also adding to the danger in homes, as celluloid is dangerous. Installment houses and furniture dealers can help to reduce the fire hazard and help protect life and property. Keep aisles free from obstructions; do not pile furniture, carpets, oil cloth and other articles in front of windows and hinder the firemen in having free access to all floors. Keep packing materials in a safe place and cellars clean and free from rubbish, also keep elevator pits clean. All stores should keep windows free and clear, so should a fire break out it will be quickly noticed by a passerby, who can in turn give the alarm and save delay.

The fire loss in the United States and Canada is almost $1,650,000 a day, and on the average there are nine lives every day and 235 persons maimed and lamed each day from the cause of fire. How long will intelligent people as we are supposed to be, stand for such enormous waste or loss of money, life and property, besides the loss of employment and business? This is a tax we can help reduce. The average percentage of causes of fires is as follows: 2% accidental; 3% building defects; 60% carelessness—children playing with fire and matches; 10% bad housekeeping in its various branches, and last but not least a percentage is of incendiary origin.

How can the waste be checked? It can be done by forming an organization which shall include everybody as a fire patrol for fire prevention. By Fire Patrol is meant that everybody keep a lookout for everything that will cause a fire, and if they see someone starting a fire in the streets, lanes or alleys, call their attention to the danger. In general watch out for fires or things that will cause same, and call the attention of the authorities to such conditions and then by so doing we will secure fire prevention. Everybody over five years of age can join in this movement, and through education and training we can stop carelessness and bad housekeeping, the cause of a majority of the fire loss. To stop incendiarism the laws provided

for the punishment of the firebug, the jury fixers or anyone who tampers with justice must be enforced. See to it that men are elected who will protect not alone our flag and our country, but our lives, our homes, our honor and our neighbors. Elect men to the Legislature who will help to pass laws that will be strict and severe along the line of fire causes, and laws that will give fire prevention first place and having a fire a crime. Pass laws to make it a crime to overinsure. Pass laws to compel the inspection of property and the ascertaining of the responsibility of the applicant for fire insurance before the issuing of policy. Pass laws to protect the honest insurance companies and honest agents, but to punish and clean up the dishonest and crooked companies and agents who are adding a premium on fires; and also pass laws regulating the adjustments and adjusters of fires. Pass laws to prohibit the promiscuous peddling of fire insurance, and quick adjustments, as hasty settlements after fires of a suspicious nature are an incentive for additional fires and breed incendiarism. So long as we do not have the proper protection by law, and a premium is put on fires by lack of methods of selecting risks, we will continue to have incendiary fires.

The various communities throughout the State are spending millions of dollars annually for fire protection and fire departments. While true, that Pennsylvania has as fine engine houses and equipment as any in the United States, and a large number of the best firemen, efficiency can be improved by adding fire prevention as a duty of every member of a fire company.

The Bureau of Fire Protection of Pennsylvania is a direct benefit to each and every individual living and owning property in the State, as by following out the law creating the Bureau and removing hazardous conditions, the danger of fire will be to a great degree removed and the betterment of conditions will mean a reduction in the insurance rates, which advance with the neglect to care for buildings and permitting dilapidation to take the place of cleanliness and safe construction.

Help in reducing the fire waste in Pennsylvania and keep the money now paid in fire tax for use of self and family.

IN UNITY THERE IS STRENGTH.

When united for a common cause, there is no power greater than the people of a community in recognizing the necessity of a change in the administration of affairs that shall be beneficial to all, and there can be no object more worthy of consideration, or of more value to any than that of conserving the lives and property of its citizens. This being a profitable fact, how can more good be accomplished than by every person in a community joining with others in saving property by the prevention of that destructive agency fire, which is responsible for such great loss and in a short time destroys that which it required years to acquire, and may mean in the case of a business man, ruination, and of a factory of manufactory, not only loss to owner, but the loss of employment and its consequent hardships which follow.

How much better to provide for the prevention of fire. Don't be behind the times. The question of fire prevention throughout the United States is one that is looked upon as being of great importance. In every state where the movement has been started the results have been most satisfactory by reducing the number of fires; reduction in fire rates, and above all, the reduction in loss of life.

The loss by fire is a total loss to a community and increases the burden of taxation of the property owner who insures, and indirectly the people at large, by the loss of taxes on property. Firewaste should call for every effort towards its elimination. It not only destroys your property, but that of your neighbor and places the lives of loved ones constantly in danger. Won't you do your share as an individual towards the reduction of fire waste in the community in which you live?

Take up the matter with your neighbors and organize a fire prevention association and have a fire prevention day. Get the teachers of the schools interested and let them teach the children what it means in the saving of life and property by the prevention of fires. Instruct the children in fire drills and fire prevention, pointing out the danger that is in the careless handling of matches; the building of bonfires; burning leaves or brush. Teach them that all fires are the same size at the start and that they must not play with or

make fire of any kind. Get them interested in the subject by instilling in their minds that prevention of fires is more important than the extinguishing of fires already started. Many children are required to kindle morning fires and empty the ash pan. Teach them never to put ashes in wooden boxes and if they throw them on the ground be sure not to do so near a building.

Get the young men and women together. Point out the advantage to them of prevention of fires which may mean so much to them in the future. Show them the danger of permitting accumulations of rubbish in their homes. Point out the danger of friction matches. Advise the using of safety matches and don't even allow safety matches to lay around where children can get them.

Point out the danger of using coal oil for kindling fires. That lamps should never be filled near exposed lights. Do not let coal oil or other oily rags lay around near where fire can reach them; they may become heated and cause spontaneous combustion. Gasoline stoves, while convenient, are very dangerous when not properly used. No one should use these stoves without careful instruction and direction and tanks which stand above the stove should never be filled while the burner is lighted.

If coal oil or gasoline is spilled on the floor see that it is wiped up immediately. Never fill a tank quite full and see that the burners are shut before filling the tank. Be careful not to let too much oil flow in the burners and be sure to close it when not using the stove. See that the gasoline can is kept outside, never in the kitchen. Gasoline must not be poured from one vessel to another in a room where there is a light. Be careful of open fire places and grates; there is danger of persons' dresses being set on fire and by coals rolling out of the grate and setting fire to the wooden floor.

Care should be taken in burning rubbish in the yards; sparks may carry a long distance and set fire to a valuable property. This can be prevented by not making a bonfire too large and see that it is not too near inflammable property and be sure that it is completely extinguished before leaving it.

Do not permit stoves to become overheated. Never use exposed flames near window curtains or clothing hanging in clothes presses or carrying lighted candles where fire may communicate to furniture, bed clothing, etc.

In addition to preventing fires, give instructions in extinguishing of fires when first started. In homes and business houses fire extinguishers should be within easy reach; a blanket or quilt will sometimes be very effective or convenient. Realize that it is up to each one in a community to reduce the fire waste which is to their own advantage and means a saving of many dollars annually. Help to reduce fire waste and remove all visible causes of fire on your property, and join together in the prosecution of those who may attempt to burn their property and injure yours by making them pay for your loss as well as their own.

A little effort in the beginning will result to the advantage of yourself and your neighbor. Help one another in the prevention of fire and you help the State toward a reduction in fire waste. Start a campaign of education in fire prevention; it will pay better than any investment you ever made. Fully sixty per cent. of the fire waste in this state is due to preventable causes. In the scramble for the almighty dollar, people have been careless and have forgotten that one dollar saved is as good as two dollars earned. Get together and save the dollar by the prevention of fires.

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